

**CONCURRENT COHORT STUDY ASSESSING THE CLINICAL PROFILES ,  
RISKFACTORS AND OUTCOMES OF ALL THE PATIENTS REQUIRING ADMISSION  
WITH URINARY TRACT INFECTION AND RISK OF UTI IN PATIENTS WITH  
INDWELLING URINARY CATHETER, IN A TERTIARY CARE CENTRE IN SOUTH  
INDIA .**

By Dr. Divya Bala Thumathy

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## **Urinary tract infection:**

**A concurrent cohort study assessing the clinical profile, outcome and risk factors among patients requiring admission and risk of UTI with indwelling urinary catheter.**

**A Dissertation submitted in partial fulfillment of  
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to be held in 2013.**

## **CERTIFICATE**

This is to certify that the dissertation “**Urinary tract infection: A concurrent cohort study assessing the clinical profile, outcome and risk factors among patients requiring admission and risk of UTI with indwelling urinary catheter.**” is a bonafide work of Dr. Divya Bala Thumaty, towards the M.D. Branch- I (General Medicine) Degree Examination of the Tamil Nadu Dr. M.G.R University, Chennai to be conducted in 2013.

Signature:

**Dr. Thambu David S.** (guide),

Professor & Head - Dept. of Medicine,  
Department of Medicine- II,  
Christian Medical College, Vellore.  
PIN: 632004.

**Dr. Anand Zachariah**

Professor and Head  
Department of General Medicine  
Christian Medical College, Vellore

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## **INTRODUCTION**

Urinary tract infection (UTI) is one of the oldest and most common infections seen in outpatient department, second to respiratory tract infection and acute gastroenteritis. It is commonly seen in women of reproductive age group. While majority of the patients with UTI is being treated on outpatient basis however, in select population, this infection still remains a threat to life.

Worldwide, about 150 million people are diagnosed with UTI each year. The spectrum of disease ranges from asymptomatic bacteriuria to cystitis to pyelonephritis and life threatening complications of emphysematous pyelonephritis in patients with diabetes, pregnancy etc.

UTI are commonly community acquired and also form an important proportion of hospital acquired infections. Community acquired UTIs are commonly seen in women more than men.

Symptomatic UTI is common among sexually active women and it is estimated that atleast 1 out of 3 women would have had an episode of UTI requiring physician visit and antimicrobial therapy before the age of 24.(1)

It is important to differentiate the type of urinary tract infection in terms of it being restricted to the lower urinary tract versus upper urinary tract, if it is complicated or uncomplicated and the antibiogram of the common local pathogens that cause the urinary tract infection. Prompt initiation of appropriate antibiotics and the preventive measures would save the patient and the institution, of the unnecessary

economic burden, given the fact that, in poor countries like India, one hospital admission can push the family below poverty line and into irrecoverable debts.

Enterobacteriaceae, commonly found as gut flora are the ones that colonize the urinary tract and cause infection commonly.

*Escherichia coli* by far, has been the commonest pathogen implicated in causing urinary tract infection.

In patients with long indwelling catheters, and prolonged hospitalization, one would expect to see other organisms like pseudomonas, proteus etc causing fulminant urinary tract infections.

Hence describing the local antibiogram becomes very important if we were to avoid unnecessary hospital admissions and fulminant /life threatening infections that would develop from untreated or improperly treated early infections.

Also, identifying the susceptible population that is at risk for developing fulminant infections and the risk factors that might predispose to development of life threatening infection become equally important.

Multiple risk factors have been described earlier for example, structural abnormalities in urinary tract, instrumentation of the urinary tract, biological and genetic factors of the host and the pathogen , metabolic conditions that cause increase susceptibility to infections like poorly controlled diabetes mellitus , pregnancy etc.

Hence we took up this study to describe the clinical profiles and outcomes in patients who are admitted and treated for urinary tract infection of varying degrees of severity and the risk factors and the incidence of recurrence among them, the risk factors for developing recurrent UTIs and the preventive measures taken to prevent recurrence of infection.

We also considered prior catheterization as a risk factor to develop urinary tract infection and hence went on to evaluate the incidence of catheter associated urinary tract infections in our hospital.

### **PROPOSED STUDY:**

Concurrent cohort study looking at the clinical profile and outcome of patients with urinary tract infection requiring admission into a medical ward and those at risk of catheter associated urinary tract infection in a tertiary care centre in south India.

We have described two cohorts-

- A. Descriptive study of patients admitted with urinary tract infections into our hospital and the risk of recurrence among them.
- B. Of the risk factors for recurrence, as has been said earlier of our interest, we decided to look at catheterization as one to develop urinary tract infection later during follow up.



## **AIM**

1. To describe the clinical profile and outcome of patients with urinary tract infection requiring admission into a medical ward in a tertiary care centre in south India, and
2. To estimate the risk of catheter associated urinary tract infection (CAUTI).

## **OBJECTIVES:**

- A. To evaluate the clinical profile, risk factors, treatment and outcomes of patients admitted with urinary tract infection and the risk of recurrence among them as studied in the past 3 years and prospectively over next 1 year.
  - 1. To describe the demographic profile of patients admitted with urinary tract infection during the study period.
  - 2. To identify the following risk factors for developing urinary tract infection
    - a. Co-morbid / predisposing illnesses
    - b. Structural illnesses or prior interventions
  - 3. To study the common organisms and their antibiogram
  - 4. To evaluate the outcomes of patients treated for the Urinary tract infection in terms of clinical cure, microbiological cure, instrumentation/procedures and mortality.
  - 5. Incidence of recurrent urinary tract infections, any risk factors identifiable in the patient who developed recurrence.

## **OBJECTIVES (Contd.):**

B. To assess the following outcome during 6 months follow-up period post-catheterization in a medical ward:

1. To study the incidence of urinary tract infection in those catheterized for reasons other than current urinary tract infection.
2. To study the risk factors that might predispose to developing CAUTI.
3. To study the rate of colonization and the common colonizing organisms.
4. To describe the outcomes in those who developed CAUTI, and the mortality risk.
5. To develop strategy to minimize the risk of CAUTI and the associated mortality.

## **REVIEW OF LITERATURE**

Urinary tract comprises of kidneys on either side with renal pelvis, with ureters draining the urine to the bladder and the bladder empties out via the urethra. And infection of the urinary tract refers to the presence of pathogens in the urinary tract in numbers enough to cause symptoms. (1)

Hence the infection of Urinary tract might range from a simple urethral syndrome to a life threatening pyelonephritis and in view of the long length of the tract involved and the course of the ureters through the abdomen and pelvis, there could be multiple developmental anomalies/ structural problems/ back flow problems, all of which can complicate the UTI.

### **Epidemiology:**

**Burden of UTI:** With an estimated overall incidence rate of 18 per 1000 person per year, UTIs are a major cause of hospital admissions and are associated with significant morbidity and mortality as well as a high economic burden. The majority of UTIs are community acquired (57.4%), whereas 35.6% are health care associated and 7% are nosocomial(3); In India, it was noticed that the incidence of UTI was 36.3 % in hospitalized patients and 16.5% in a non-hospitalized outpatient population group(4). As mentioned already, catheterization /instrumentation is one of the major risk factors and #CA-UTI account for up to 40% of all nosocomial infections and more than 1 million cases in US hospitals and nursing homes each year(5) while the incidence of CA-UTI differed in different settings (eg.,ICU vs Non ICU) ,wide regional differences in incidence have also been reported.

**Economic burden:** India being the diabetic capital of the world with the economic burden of diabetes close to 1230 billion INR, the incidence of UTI in such population was found to be 59.5/1000 person-years for all patients(6) only worsening the already existing economical burden .Community acquired UTI per say costs the global economy in excess of 6 billion US dollars every year.

### **Natural history of UTI:**

The urinary tract infection is sterile except for the distal one third of it which contains mixed commensal flora.(7) This commensal flora are supposed to be protective to prevent ascension of infection to the bladder and kidneys.

When the urinary tract gets infected , the infection may be restricted to lower urinary tract when the patients , characteristically , develop dysuria and increased frequency with severe discomfort(urethral syndrome) suggestive of the lower urinary tract infection. Associated with these they may also have lower abdominal discomfort and occasional hematuria (cystitis).

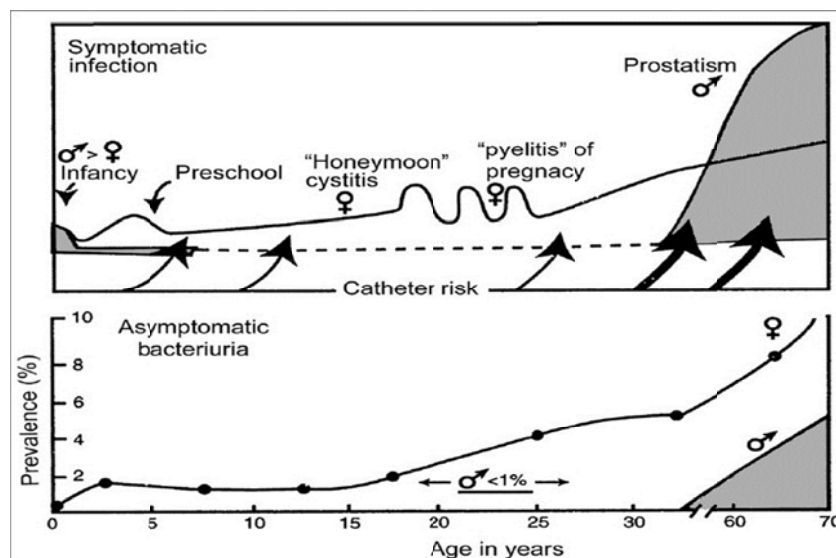
They may go on to involve the upper urinary tract – where there is infection of the kidneys , the perinephric space and the Gerota's fascia and formation of abscesses in the system ,when, the patients will report fever with shaking chills and flank pain and severe pain radiating to the hip or the leg(if there is tracking of pus along the gerota's fascia).

**Asymptomatic bacteriuria:** This is a where there is isolation of bacteria from the urine in significant quantities consistent with infection, but marked by the absence of local or systemic genitourinary signs or symptoms .Among general population the prevalence of asymptomatic bacteriuria is found to be around 3.5% and it generally shows a linear trend as the age increases.(8) Parity, Lower

education, diabetes in women, a history of UTI have been described as risk factors for asymptomatic bacteriuria. And it has been reported that 4-10% of pregnant women have ASB.

This is important to know in view of the significance of it in vulnerable population like pregnant women, patients on long term high dose immunosuppression, children, patients with chronic kidney disease , recurrent UTI etc. where though there is absence of clinical features, treatment with antibiotics is warranted .

The progression of urinary tract infection in women in their life time is depicted here below(9):



**Acute Urethral Syndrome:** Approximately 90% of the patients with urethral syndrome complain of dysuria and increased frequency of urine. These patients may have pyuria but may not always have significant bacteriuria. This syndrome is usually accounted for by vaginitis, urethritis and prostatism.

As seen in the picture above, young women in the reproductive age group are more prone for urethritis (with sexually acquired infections/moniliasis etc) ; while elderly ,post menopausal women for vaginitis (senile and candidal) and middle aged and elderly men to prostatitis.

**Cystitis:** This is defined as the infection of the bladder epithelium with uropathogens. Almost exclusively seen in women between 15-45 yrs of age. Usually it is uncomplicated in the sense that, it can be treated with short course of antibiotics therapy but, the relapse rates are high with cystitis.

Here, of worth mentioning is the term 'interstitial cystitis' which was being used earlier for patients with long history of frequency and dysuria, many courses of antibacterial treatment and a repeated finding of apparently 'sterile' pyuria(10). Earlier study done showed presence of inflammatory changes and tissue biopsies growing fastidious organisms and hence was recommended that patients who present with interstitial cystitis /painful bladder syndrome should be recognized early and initiated on appropriate multimodal therapy that includes pharmacologic and behavioural therapy.(11)(12).

**Pyelonephritis:** This is defined as the Inflammation of the of upper urinary tract (Kidneys, the ureters, tissue surrounding the retroperitoneal or perinephric space) associated with clinical features of high grade fever with flank pain and laboratory evidence of pyuria with urine and/or blood culture growing the same uropathogenic organism.(2)

Prompt clinical suspicion and initiation of antibiotics has been life saving and at the same time, the converse of it, delay in diagnosis and initiation of therapy in the presence of risk factors like diabetes mellitus, nephro/urolithiasis and structural problems might lead to life threatening sepsis with the same infection.

Pyelonephritis is important to understand because of the high chances of complications that arise from this infection.

Earlier, in the pre-antibiotic era, infection of kidneys was almost always hematogenous and the organisms commonly isolated were from the blood stream infections like Staph aureus etc. However now, >75% of the time the infection is by ascending infection from the bladder to the kidney. The bacteria may directly invade the renal parenchyma from medulla to the cortex and . The local vascular channels in the kidney facilitate this spread /transport of infection. This leads to development of abscesses within the kidney parenchyma that may rupture into perinephric space. This perinephric space contains peri renal fat and adrenal glands which are in turn surrounded by gerota's fascia that extends up to the diaphragm-above and down to the pelvic fat inferiorly, so when the abscesses rupture into the gerotas fascia they may even track down into the psoas /transversalis fascia anteriorly , into the subdiaphragmatic space superiorly and inferiorly into the pelvis causing pain at the typical referred sites of leg/groin etc .

Presence of nephrolithiasis producing obstruction is an important risk factor for development of perinephric abscesses.

All this ascending infection was to be kept in check by the commensal flora which act by different methods to prevent infection of the uroepithelial cells by the pathogenic microorganisms. It is when this balance is disrupted or overwhelmed that the UTI occurs.

### **Commensals in the urinary tract:**

As has been mentioned before, the distal third of the urinary tract harbours mixed commensal flora the purpose of which is to prevent ascension of infection.(13) and as said earlier, the asymptomatic bacteriuria increases with age as does the colonization of oropharynx with gramnegative aerobes suggesting that there is a dynamic change in the composition of normal flora and that it is dependent on different variables.



A study was done in 1980 by Marrie et al from Canada who looked at the composition of urethral flora in normal women of different age groups comparing with women who had urinary tract infection.

Age groups were defined as premenarchal/reproductive and post menopausal.

They have found that there is significant increase in the quantity of microbes with increase in age and that there is colonization with aerobic bacteria in premenarchal and reproductive age group as compared to those in post menopausal age group with predominantly anaerobic flora and also sometime aerobic gram negative rods. Though these Gram Negative aerobic bacilli were isolated from the Post menopausal women who were carrying the organism, it accounted only to 1% of the urethral flora as compared to those who had urinary tract infection where these organism accounted upto 95% of the flora.(13)

Further studies done showed that there was predominance of lactobacillus in the urethral flora in the reproductive age group women and in girls just at the time of menarche bringing in the possibility of effect of estrogen on the commensal flora in the urogenital tract.(14)

It is with the example of lactobacillus colonization in the gut and the urinary tract that , a study was done to review the effectiveness of lactobacillus the predominant commensal in preventing the infection of the epithelial cells.

At this point, few pathogenetic mechanisms were described

- a. Phenomenon of Bacterial interference
- b. Production of enzymes by the pathogenic organisms
- c. Ability of the pathogenic organisms to adhere to the urothelial cells.

Phenomenon of bacterial interference: This was first proposed when there was an observation made by Elie Metchnikoff in 1894 who observed that cholera could be prevented by the presence of the antagonistic organisms in the intestine. He implied that normal flora help by the by-products to in some way to affect the health status at points other than just intestinal colonization.(here is where the use of oral lactobacillus came about for use for minor illness like diarrhea)

Later in 1956, Sears et al used a gelatin capsule containing an avirulent strain of E.Coli and implanted in a dog's intestine and which later repelled a challenge with virulent strain of E coli suggesting the role of bacterial interference in pathogenesis of infection.

Wells et al showed that bacterial translocation of E coli from the gut can be interfered with, by the anaerobic bacteria and enterococci in the gut.

In the Urogenital tract, the leading organism, lactobacillus *co aggregates* and colonises the epithelial cells and in vitro is shown to neutralize the uropathogens in the process.

However, the same phenomenon as is described may also be a pathway for uropathogens to gain adhesion to urothelial surface by this so called 'co aggregation'.

Interestingly, it has also been shown that the E coli (uropathogenic) which have type 1 Fimbriae , commonly associated with infection of the urinary tract tend to adhere to Lactobacillus and B.fragilis suggesting the possibility of co aggregation in the pathogenesis of infection.

Production of substances to facilitate pathogenesis and adherence mechanisms:

Uropathogens express many virulence factors such as adhesions, hemolysin , siderophores, O antigens etc .It is the production of these substances that help the pathogens adhere to the uroepithelium as well as to co aggregate forming the biofilms on the surface of the

epithelium.(15) Other well known substance is the urease produced by *Proteus*, that makes the pH alkaline facilitating the growth of the organism.

*Escherichia coli*, the commonest organism in the last few decades to cause urinary tract infection, has been shown to have specific organelles that help in adherence of the bacteria to the uroepithelium- *P fimbriae*.

For any bacterium to infect and induce any inflammation, adherence to cell surface and establishment of bacteriuria is of utmost importance. *P fimbriae* are the organelles that are coded by the *pap* gene cluster that help in achieving this goal in *E.coli*.

A study was done from Lund university, Sweden, that demonstrated the pathogenic ability of *p-fimbriation* in *E coli*. In this study a non fimbriated strain of *E coli* was used to deliberately colonise the patients with recurrent UTIs with which there was no significant bacteriuria and there were only transient host responses and it was of significance only in those with detrusor instability and structural abnormality of the urinary tract.

While on the other hand, fimbriated version of the *E coli* significantly increased the possibility of Pyuria and levels of IL-6, IL-8 that induce host inflammation and also less bacterial numbers were required to induce host inflammatory response.(16) the role of these *P fimbriae* in decreasing the motility of the ureters and inducing inflammation has also been shown in another study.(17).

All these suggest the different pathogenetic mechanisms *E coli* has evolved to keep the strain from perishing-

Not to forget, the post antibiotic era where the organisms have been evolving themselves to develop resistance through plasmid mediated and other mechanisms .Classic example is the acquired resistance to trimethoprim through plasmid mediated mechanism (18)rendering it useless in the treatment of UTI of the new age. The acquiring of Antibiotic resistance in the community acquired strains of E.coli , the alarmingly increasing number of isolates from community acquired infections with ESBL producing E coli is of concern.(19)

### **Etiology of UTI:**

The etiology of UTI has not changed much in the last few decades with Escherichia coli being the most common isolate from patients with urinary tract infection from all over the world.

Approximately 80% of UTIs, have the causative organism as E.coli. Next commonest being Klebsiella, Proteus, and in hospital acquired UTIs, Pseudomonas.

A review of etiology of UTI from USA is tabulated below:

<b>Uncomplicated UTI Pathogens</b>	<b>Complicated UTI Pathogens</b>
<i>Escherichia coli</i>	<i>Escherichia coli</i>
<i>Staphylococcus saprophyticus</i>	<i>Klebsiella spp</i>
<i>Klebsiella spp</i>	<i>Enterobacter Cloacae</i>
<i>Enterococcus Faecalis</i>	<i>Serratia marcescens</i>
	<i>Proteus mirabilis</i>
	<i>Pseudomonas aeruginosa</i>
	<i>Enterococcus faecalis</i>
	<i>Group B streptococci</i>

### **Extended Spectrum Beta Lactamase (ESBL) producing E.coli:**

ESBL production was first identified in 1960s in the bloodculture isolate of E.coli of a woman in Greece and hence the enzyme was named after her- TEM(20). ESBL hydrolyses the oximino-beta-lactams such as extended –spectrum cephalosporin and are highly susceptible to Clavulanate and Tazobactam. These cannot hydrolyse the carbapenem group.

This enzyme production is mediated by plasmid and transposon and hence has facilitated its spread to other species of bacteria.

Within few years, this spread worldwide and later another enzyme SHV-1 was identified which is chromosomally mediated in klebsiella and Plasmid mediated in E.coli.

Over the last few years, many new B-lactam antibiotics were developed but with each new development, the organisms emerged with novel resistance patterns.

TEM-1 is the commonest ESBL encountered in GNB and it is responsible for ampicillin resistance upto 90% in E.coli. This is also responsible for increasing number of resistance towards ampicillin and penicillin in H.influenzae and N.gonorrhoea.

The emergence of newer ESBLs happens with just a single aminoacid substitution rendering it vulnerable to the selection pressure that happens with the use of a particular group of antibiotics in a given institution(21). This observation came from the fact that the mutations that happen in TEM in laboratory other than those naturally described are constructed. Hence the fluctuating selective pressure with different B lactams in the same institution rather than a single agent might be responsible for further emergence of resistance.

Newer enzyme CTX-M and OXA are the new families added to this class of enzymes.

CTX-M type is plasmid mediated and confers resistance to Cefotaxime while OXA confers resistance towards ampicillin and cloxacillin and is least inhibited by clavulanic acid.

The resistance patterns described by Kang et al have been similar to the ones that we have observed in our institution and our study. The table of comparison is found in the annexure(19).

Various risk factors have been described for emergence of ESBL in community acquired infections.

Study from Spain identified that the prevalence of ESBL infection in the community in the period between 2000 and 2003 has increased from 0.47% to 1.7% and that the risk factors that showed trend towards significant association were previous hospital admission in the last 12 months, use of 2<sup>nd</sup> gen Cephalosporins prior, intravenous antibiotic use, previous bacterial infection, presence of a genitourinary pathology. However on multivariate analysis, only use of 2<sup>nd</sup> gen cephalosporins was shown to be significant in predicting the development of ESBL in community.(22). At the same time Kang et al found that prior use of cephalosporins and fluoroquinolones has been significant in predicting emergence of ESBL in community acquired infections.(19)

### **Diagnosis:**

History dates back to 1956/57 when Edward Kass proposed the term – ‘significant bacteriuria’ to differentiate between women with infection and without infection and to aid in the diagnosis and treatment of these women who are symptomatic.

With the advent of antibiotics in the mid 1950s, this distinction became necessary to avoid unnecessary prescription of antibiotics and also to identify those at risk of developing UTI.

**Method of collection of Urine:** The earlier studies done had shown the correlation of culture growth of the initial 10ml of urine with the peri-urethral swab cultures, both growing the same organism. Those studies were used to identify the normal resident flora of the urinary tract. That extrapolated to collection of midstream clean catch of urine to be a better indicator of pathogen causing the urosepsis.

**Methods of diagnosis:**

***Microscopic examination of urine:*** In a patient with significant bacteriuria, a centrifuged sample will almost always show bacteria. In patients with Colony forming units  $<10^5$  approximately 10% of them show bacteria. The presence of bacteria is more specific and less sensitive(23)

Pyuria is present in patient with UTI. About 60-75% will have WBC  $>10$  in urine .This has high sensitivity (95%) but may not always be diagnostic of the UTI(low specificity)(24) since it may be falsely present in patients with Genital tract infections/WDPV or Genital Tuberculosis(described as sterile pyuria)(25). Pyuria can be detected by direct microscopy of centrifuged urine or by dipstick for leucocyte esterase.

A dipstick rule--based on having nitrite or both leucocytes and blood--was moderately sensitive (77%) and specific (70%) [positive predictive value (PPV) 81%, negative predictive value (NPV) 65%].(26)

***Urine culture:*** As discussed earlier, Midstream clean catch urine has been the best method of collection of urine for culture of organism from patients with UTI. However, the technical difficulties in collecting the sample in the elderly/obese/children and the likelihood of

contamination of urine while collecting, made the other methods of collection – catheterized sample/suprapubic sample as important alternatives.

The growth of organism in the culture – the number of colony forming units ,as first mentioned, was said to be significant if the number was  $>10^8$  according to Kass(27).

However, Maskell et al questioned this number, noting that, many women with significant symptoms were left untreated or treated with short course of antibiotic with risk of recurrence.

She also pointed out that some of those women would have had lots of water to drink and passing urine and diluted the urine due to the lower urinary symptoms at which time such high cut off was not feasible.

Hence the IDSA –FDA has given the guidelines for pretreatment significant growth of pathogens is defined as =  $10^4$  colony forming units/mL in women (midstream urine) or =  $10^3$  colony-forming units/mL in men (midstream urine) or =  $10^3$  colony-forming units/mL (catheter urine) or =  $10^2$  colony-forming units/mL of midstream urine collected during antibiotic treatment of UTI (28).

Individual symptoms have modest ability in accurately predicting the diagnosis of UTI however,when combined with other signs and laboratory techniques like dipstick, the diagnostic accuracy increases steeply.(29)

### **Treatment strategies:**

#### **Medical management of UTI:**

With emerging resistance to newer antibiotics and newer resistance patterns, it is important to know the antibiotic profile- the local antibiogram of common organisms to be able to choose the right drug .



Urine culture and blood cultures must be done prior to initiation of antibiotics.

Important principle is to downgrade to a lower antibiotic once the culture sensitivity reports are available , in keeping with the patient's clinical condition ,to prevent collateral damage in terms of emergence of resistance among the innocent bystander organisms(commensals) which might later get transmitted and also wiping off of commensals which, as discussed earlier, might remove the advantage of bacterial interference leading to superadded invasive infection with more more resistant pathogens.

American Urology society and European society along with IDSA have provided guidelines towards management of Urinary tract infection and prevention of incidence of catheter associated urinary tract infection along with economical analysis of the cost of treatment and prevention.

### **Principle of management:**

- 1.Prompt diagnosis and initiation of treatment after appropriate cultures and prompt upgradation/downgradation of antibiotics based on culture reports and clinical judgement.
- 2.Evaluation of risk factors for development of UTI
- 3.Identifying the riskfactors for development of recurrence of UTI.
- 4.Identifying the vulnerable population – pregnant women, diabetics,children,patients on prolonged immunosuppression etc for careful follow up.
5. As and when needed source control in terms of surgical intervention if there are any collections/abscesses.

For complicated urinary tract infections first drug of choice is a carbapenem as compared those with uncomplicated, less severe UTI can be managed with oral Trimethoprim - sulfamethoxazole

in resource limited setting and tailor based on the local anitbiogram. There are areas where bacteria are still sensitive to fluoroquonolones and in such places Oral Fluoroquinolones can be used.(30)

Everybody is equally at risk of developing a UTI but certain vulnerable populations exist like pregnant women, children, patients with diabetes(6) disorders of spinal cord, those on long indwelling catheter ,other debilitating neurological conditions, immunocompromised state like cushings,HIV/AIDS, and those with structural urological problems.

So far the risk factors identified for increased susceptibility towards development of urinary tract infection have been (8) :

<b>Genetic</b>	<b>Biologic</b>	<b>Behavioural</b>	<b>Others</b>
Non secretor status	Congenital abnormalities	Sexual intercourse	Urogyneacological surgeries
ABO blood group antigens	Urinary obstruction	Diaphragm use	Estrogen deficicency
	Prior history of UTI	Condom use	
	Diabetes	Spermicide use	
	Incontinence	Recentantibiotic use	

### **Recurrence:**

Recurrence of UTI has been the major health issue in patients who are admitted with Urinary tract infection. It has been shown that approximately 25% of women have another episode of UTI following the first episode within 6 months.(31).

Those who are at risk of recurrence are mostly women and the list includes post menopausal women (32)(33),men and women with uncontrolled/poorly controlled diabetes, those who underwent urological surgeries(34) ,those with improperly treated ,unfinished treatment course for any preceeding UTI.

The characterisitics of bacteria have also been widely studied in view of recurrence of UTI and it has been shown that the presence of infection with the p-fimbriated E.coli is associated with recurrent urinary tract infection because of their ability to adhere to the urothelium and to form biofilms.

Various forms of therapy have been tried to prevent recurrences especially among women.

Cranberry juice(35), Probiotics(32), Estrogen therapy for postmenopausal women ahevall been tried but nothing has been proven of significant benefit.

Prophylaxis with anitbiotics has been extensively studied – one dose versus daily low dose of anitbiotics has been debated. (37) Cochrane review suggested that 6-12months of antibiotic prohylaxis in women will help in preventing recurrent UTIs in non-pregnant women. (36).

Among the risk factors for recurrence of UTI was the history of catheterization

## **Catheter associated urinary tract infection (CAUTI):**

Catheter associated urinary tract infection is the commonest device associated nosocomial infection worldwide.

Device associated infection rate, in general has been increasing worldwide and most hospital-acquired UTIs are associated with catheterization, and most occur in patients without signs or symptoms referable to the urinary tract, CA-bacteriuria being the most frequent health care-associated infection worldwide, accounting for up to 40% of hospital-acquired infections in US hospitals each year(38). Vonberg et al from Germany had reported an incidence of 6.8 CAUTI per 1000 device days while an Indian Study by Singh .S from Gujarat reported the same as being 0.6CAUTI per 1000 catheter days. The incidence of CAUTI changes again in patients admitted into ICU – 4.3 cases per 1000 device days from Columbian data (39)(40) Vs 1.41 per 1000 catheter days from Indian ICUs (41)

It is noteworthy that Fewer than 5% of bacteriuric cases actually go on to develop bacteremia, and CAUTI is the leading cause of secondary nosocomial bloodstream infections; about 17% of hospital-acquired bacteremias are from a urinary source, with an associated mortality of approximately 10%. The risk of bacteriuria with catheterization is 3% to 10%, every day, approaching 100% after 30 days(42). In a study done in Thailand in 2005, the risk of CAUTI was maximum within 2 weeks of indwelling catheterization and half of the study group developed UTI within one month. One other study from Michigan evaluating Condom catheter Vs Indwelling catheter found that those who had an indwelling catheter were approximately five times as likely to develop bacteriuria or symptomatic UTI or to die (hazard ratio=4.84, 95% confidence interval=1.46-16.02) as those with a condom catheter (P=.01). Hence we wanted to study the burden of CAUTI in our hospital and the risk factors and outcomes related to the

same by evaluating the patients who are catheterized and by following them up till 6 months to look for any development of urinary tract infection.

CA-UTI is defined as the development of symptoms and signs with significant bacteriuria in a patient with indwelling catheter currently or who had it in the last 48 hrs.

CA- Asymptomatic bacteriuria – is described as bacteriuria but without symptoms in patients who have long standing indwelling catheter.

### Pathogenesis:

The presence of a foreign body in the form of an indwelling catheter introduces an inoculum of bacteria. This can be the native flora from the patient or transitory flora that gets introduced during the catheterization procedure.

The presence of a foreign body helps the microbes to form colonization further leading to the formation of so called 'biofilm'. Biofilms are usually formed by one species but once the bacteria start growing on the biofilm, they produce polysaccharides that adhere and trap other bacteria and the biofilm supports the growth thus becoming polymicrobial.

The catheter also helps in ascension of organisms easily now that there is a conduit to help the process. This happens especially if the bag is contaminated/if there's contamination of the tubing by the frequent handling of the personnel/ if there is delayed bladder emptying etc.

Also it has been shown that the uro-epithelial cells after catheterization are more prone for adherence of bacterium than the normal cells due to breach in the mucosal barrier during catheterisation and by the sheer presence of the catheter.(43).

The common organism isolated is E.coli. Other Enterobacteriaceae like klebsiella, citrobacter, enterobacter and others like proteus, pseudomonas aeruginosa are the other commonly encountered bacteria in CA-UTI.

**Clinical features:** CA-UTI are seldom symptomatic. The presence of a new fever, hypotension, frank hematuria, flank pain etc. In patients whom, it has been removed, features like increased frequency, dysuria etc should alarm the physician of a possibility of a CA UTI. Significant growth on urine culture may be present. The significant growth in patient suspected to have CA UTI has been debated .The presence of low Colony count does not rule out infection (in patients with symptoms), the converse, presence of significant bacteriuria without symptoms does not warrant treatment always .

Hence the decision to treat the urine culture and suspect CA UTI is dependent on the treating physicians. Guidelines have been laid for the same by the IDSA.(38)

### **Prevention strategies :**

- Avoiding unnecessary catheterizations
- Prompt removal of catheter in situation where patient has recovered and the indication ceases to exist.
- Changing over to condom catheter (in men ) whenever required.
- Avoiding unnecessary handling of the catheter by the health care personnel.
- Using closed catheter drainage system.

It has been shown that addition of antibiotics to the urosac, regular cleaning of the meatus by povidone iodine etc, cranberry method, low dose antibiotic prophylaxis have all been unsuccessful in preventing the development/the morbidity and the mortality associated with the CAUTI.(38)

## **MATERIALS and METHODOLOGY:**

### **Setting:**

- a. The Christian Medical College is a 2400 bed teaching College in Vellore, South India. Though it caters to approximately 1 million citizens of the town it also serves patients from all over India and South-East India. The C-ward is among the three main general medical wards of the hospital. It is a 40-bed ward with average bed occupancy of 80—90% and has patients from lower to middle socio-economic adult patients.
- b. Duration: March 2008 till March 2011 as retrospective analysis and from August 2011 till July 2012 as a prospective study.

### **Participants:**

#### **Cohort A:**

Inclusion criteria: All Adult patients admitted under Medicine Unit- II with a diagnosis of:

1. UTI
2. Pyelonephritis
3. Urosepsis

All these patients will be followed up till discharge and up to July 2012 with a maximum follow up period of 3 yrs.

## **Diagnostic criteria:**

### **Urinary tract infection:**

Significant bacteriuria ( $>10^5$  CFU/ml) in a patient with symptoms or signs attributable to the urinary tract and no alternate source.

### **Pyelonephritis:**

It is defined as inflammation of the upper urinary tract (Kidneys, ureters, tissue surrounding the retroperitoneal or perinephric space). Criteria for diagnosis of pyelonephritis include:

1. The isolation of the same pathogen from urine and blood cultures.  
or
2. The simultaneous presence of :
  - a. Fever, defined as an axillary temperature of  $38^{\circ}\text{C}$  or greater;
  - b. Pyuria, defined as the presence of 10 or more leukocytes per high-power field in the centrifuged specimen; and
  - c. Positive urine culture ( $>10^5$  colony-forming units [cfu]/mL) or signs and symptoms with probably significant bacteriuria.(2)

### **Urosepsis:**

As defined in the International Sepsis forum consensus guidelines.(2)



**Definitions (IDSA-FDA):** Urinary tract infections can be classified

- According to the setting of onset, such as nosocomial infection, health care-associated infection, and community-acquired infection.
- According to the anatomic site of infection, such as cystitis or pyelonephritis.
- Complicated or uncomplicated, irrespective of the site and severity of the infection: Complicated urinary tract infections (cUTIs) being defined as those occurring in patients with anatomic or functional abnormalities of the urinary tract or in those with significant medical or surgical comorbidities.
- ***Clinical cure*** is defined as being alive with the absence of fever (temperature < 38.0°C) and the resolution of UTI symptoms
- ***Clinical treatment failure*** is the opposite of clinical cure and defined as deterioration, persistent fever and/or symptoms of UTI or relapse of UTI with the same uropathogen for which additional antimicrobial treatment is prescribed.
- ***Pre-treatment significant growth of uropathogens*** is defined as =  $10^4$  colony forming units/mL in women (midstream urine) or =  $10^3$  colony-forming units/mL in men (midstream urine) or =  $10^3$  colony-forming units/mL (catheter urine) or =  $10^2$  colony-forming units/mL of midstream urine collected during antibiotic treatment of UTI at study entry(22)
- ***Bacteriologic cure*** or eradication is defined as the elimination of the uropathogen or as pathogen growth of less than  $10^4$  colony forming units/mL in women or less than  $10^3$

colony-forming units/mL in men, of a midstream urine sample collected combined with the disappearance of leucocyturia(22)

- ***Co-morbidity*** is defined as the presence of any urinary tract disorder, post menopausal status or prolapse or gynaecological malignancy (in women), heart failure, cerebrovascular disease, renal insufficiency, diabetes mellitus, malignancy or chronic obstructive pulmonary disease for which the patient is prescribed medication and/or consults a hospital-based medical specialist.
- ***Recurrent UTI:*** defined as ≥3 microbiologically documented episodes of symptomatic UTI managed in the clinic during the last year or 2 episodes during the last 6 months.(80% of Recurrent UTI are Re-infection)
- Re infection : Recurrent infection with the same or a different organism.
- Relapse: Infection with the same strain of organism within 2 weeks of treatment – considered as treatment failure.

## **Cohort B:**

### **Inclusion:**

1. All adult patients catheterised (indwelling urinary catheter) in the Emergency department and admitted into medical ward.
2. All patients catheterised for any reason while admitted in the medical ward/ Medical ICU/HDU.

For a period of approximately 6 months (from Nov 2011 - May 2012) and following them upto discharge and for 6 months thereafter.

### **Definition:**

Catheter associated Urinary tract infection is defined as the new appearance of bacteriuria or funguria with a count of more than  $10^3$  CFUs/mL occurring in person whose urinary tract is currently catheterized or has been catheterized within the past 48 hrs.(2). If intercurrent antimicrobial therapy is not given to the patient, the level of bacteriuria or candiduria uniformly rises to more than  $10^5$  CFUs/mL within 24 to 48 hours.(5)

However, in our hospital, since we do not always have the clinical details available, we have been using  $10^5$  CFUs/mL as a criterion for significant bacterial growth in the cultured urine specimen based on our hospital data about the commonest uropathogens and their anti-bacterial resistance pattern.

Hence, even for Catheter associated UTIs, we will take  $10^5$  CFUs/mL as a significant growth on culture.

### **Exclusion criteria:**

1. Patients with history of urinary tract infection in the last 1 month or patients catheterised while admitted for treatment of UTI.
2. Paraplegic/Bed bound patients who have been on catheter for more than 3months.
3. Patients with External catheterisation (Uro-condom), intermittent catheterisation, suprapubic catheterisation are not included.

**Cohort A:** We used the clinical research form and collect the required data from the inpatient record of the patients admitted with UTI during the study period with informed consent from the patients being recruited prospectively and followed up till discharge and thereafter for 1 year to look for recurrence.

**Cohort B:** We estimated approximately 20% of our hospitalized patients requires catheterisation annually. We included all the patients meeting the inclusion criteria consecutively from November 2011 – August 2012. We did culture and sensitivity on catheter cleaned, clamped and collected urine specimen along with urine routine analysis. The cultures were done on the third day of catheterisation in keeping with the CA-UTI guidelines from CDC (48hrs as standard time period for assessing the development of device associated hospital acquired infections).

### Preliminary work:

Since it is a descriptive study we looked at the previous admission statistics and our question to be addressed which is , the risk of recurrent UTI .

We looked at the admission statistics over the last 4 years and calculated the approximate number of patients that are admitted with the diagnosis of urinary tract infection (as given in table below)

<b>Year</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Total number of patients admitted to C-ward	1984	1936	1884	1993
Number of patients admitted with UTI	134	143	136	143
Average duration of stay for all admissions	6.53	6.34	6.27	7.65

### **Sample size Calculation:**

Our literature review showed that the approximate incidence of recurrent UTI in diabetics is 40%. However, as given below, for Cohort A, we would like to analyse as much of available data in the 3 yr study period as possible, keeping the minimum number as 162 and the maximum number as 586.

**Table 1: Sample Size for Objective A**

<b>Two Proportion - Hypothesis Testing - Large Proportion - Equal Allocation</b>		
<b>Incidence of Recurrent UTI is nearly 20%</b>		
Proportion of recurrent UTI in MII	0.2	0.2
Proportion of recurrent UTI in Diabetes or Catheterization is around 1.5 to 2 times more	0.4	0.3
Estimated risk difference	-0.2	-0.1
Power (1- beta) %	80	80
Alpha error (%)	5	5
1 or 2 sided	2	2
<b>Required sample size for each arm</b>	<b>81</b>	<b>293</b>

The incidence of UTI in MII patients have been nearly 20% per 6 month. However, this is expected to be 1.5 times for patients with history of catheterization and 2 times more for patients with Diabetes. In order to test this difference, with  $\alpha$  and  $\beta$  errors at 5% and 20% respectively

and a drop out of 10%, **we need to study nearly 300 subjects with primary UTI with Catheterization and 300 subjects without Catheterization.**

**Table 2: Sample Size for Objective B**

<b>Proportion of catheterized patients with Colonization in Med II who could develop UTI</b>	<b>0.25</b>	<b>0.25</b>
Proportion of patients without Colonization in Med II who could develop UTI	0.06	0.06
Estimated risk difference	0.19	0.19
Power (1- beta) %	<b>80</b>	<b>90</b>
Alpha error (%)	5	5
1 or 2 sided	2	2
<b>Required sample size for each arm</b>	<b>56</b>	<b>74</b>

The proportion of patients with colonization in Med II who could develop UTI has been expected to be around 25%, while this is 6% in the no colonization group. In order to show that this difference is statistically significant with  $\alpha$  and  $\beta$  errors at 5% and 20% respectively, **we need to study nearly 56 subjects** each with colonization and without colonization.

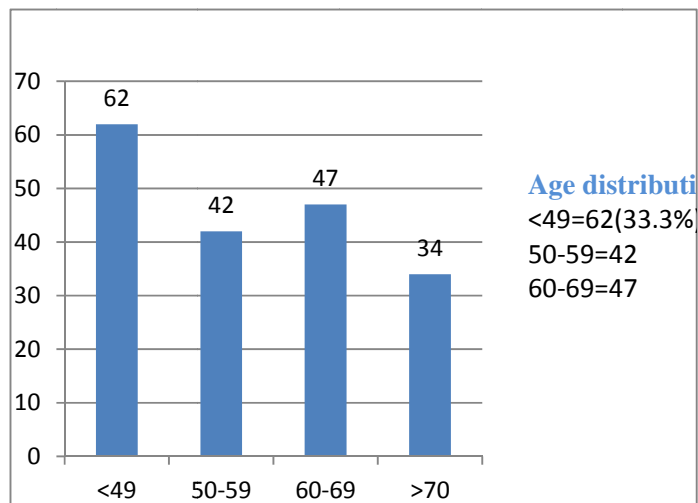
# **RESULTS**

## **Cohort - A**

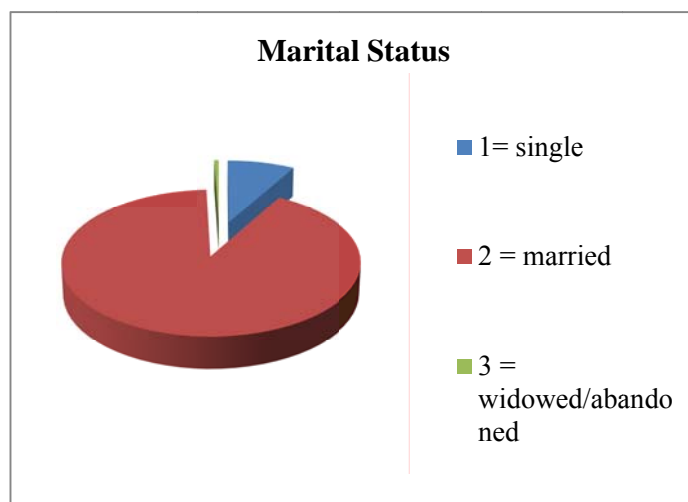


## Patient characteristics

Patients were recruited from March 2008 to August, 2012 a total of 185 patients were screened and 185 patients were analysed for Cohort A



The majority of the patient belonged to the group of age >49(66.6) Women were mostly housewives and most of the men were unskilled labourers(farmers.daily wage workers).70% of the patients were from tamilnadu .



### *Clinical characteristics:*

During the period of study, total of 185 patients were recruited (N=185). The baseline clinical characteristics at presentation are depicted in Table 1.

85.4 % patients had fever and about 59% of the patients had dysuria at presentation. However only 25.4% and 45% patients had LUTS and renal angle tenderness, respectively. Alteration of the mental status was the most common associated complaint (25.4%).

Diabetes mellitus was the most common comorbidity (60.5%) associated with the diagnosis of UTI.

Despite being the tertiary care referral centre, only 17.8 % of the patients had confirmed history of prior use of antibiotic before presentation to CMC. Less than one-fourth of the patients had history of urinary catheterization in the past.

Out of 185 patients, 27(14.6%) patients had past history of at least one documented urinary tract infection.

**Table 1. Clinical characteristics at presentation:**

Presenting symptoms	N=185 (percentages)
Fever with chills	158(85.4)
Dysuria	109(58.9)
LUTS	47(25.4)
Renal Angle / Supra-pubic tenderness	83(44.9)
Other Symptoms	
Altered sensorium	47 (25.4)
Change in urine	13 (7.0)
Dyspnea	10 (5.4)
Vomiting	24 (13.0)
others	31 (1.8)
None	60 (32.4)
Antibiotic use prior to current admission	33(17.8)
Comorbidities	
Diabetes	112(60.5)
Hypertension	64(34.6)
<i>Other comorbidities</i>	142(76.8)
Structural Condition.	33(17.8)
Metabolic Predisposition	75(40.5)
Condition.ILeading to Decrease Mobility	24(13.0)
Debilitating Condition.	10(5.4)
History of previous admissions	81(43.8)
Past history of catheterisation	43(23.2)
Past history of instrumentation	11(5.9)
Previous history of UTI	27(14.6)

Table 2 - Clinical signs at presentation:

Clinical signs at the time of presentation		Number (%)
Pulse (>100)		110(59.5)
Resp.Rate (>20)		133(71.9)
Hypotension		37(20.0)
Renal Angle tenderness		66(35.7)
	Right side	21(11.4)
	Left side	16(8.6)
	Bilateral	29(15.7)
Per rectal examination done		32(17.8)
	Normal	26(14.1)
	Prostatomegaly	6(3.2)
PS/PV for women		26/97(26.8)
	Normal	25(25.8)
	Cystocoel	1(1.0)
Catheterised		<b>80(43.2)</b>
	Nurse	<b>57(30.8)</b>
	Intern	<b>20(10.8)</b>
	Registrar	<b>3(1.6)</b>
Indication for catheterization		
		<b>20(10.8)</b>
Oliguria/renal failure		<b>18(9.7)</b>
Altered sensorium		<b>24(13.0)</b>
Shock		<b>6(3.2)</b>
Immmobilisation		<b>6(3.2)</b>
Change of catheter		<b>5(2.7)</b>
Not known		

### *Microbiological Characteristics:*

Out of 185 patients, urine culture was performed on 178 (96.2%) patients. 140 urine culture showed uropathogenic organism. E. coli was the most frequent organism (58.4%). 68 out of the 108 (63%) E. coli isolate were ESBL producers (table 4).

**Table 4: Organism grown in urine culture**

Organism	Number(Percentage)
E Coli- non-ESBL	40(21.6)
ESBL E.Coli	68(36.8)
Klebsiella/GNB	10(5.4)
Pseudomonas	5(2.7)
Candida	17(9.2)
Contaminants	3(1.6)
No growth	35(18.9)
Not done	7(3.8)

Among the 140 urine cultures, mid-stream clean catch urine collection was the most frequently performed (77.1%) method of urine specimen collection. The rate of isolation of significant colony forming units among the three methods of urine collection has been tabulated below in table 5. When all the 3 methods are compared, there was no statistical difference among the 3 different methods of isolation of the organism with respect to the rate of significant colony count (chi-square = 0.24).

**Table 5: Rate of isolation of significant colony forming unit organism from 3 methods of urine collection.**

	<b>Method of collection of Urine for culture</b>	<b>CFU per ml</b>		<b>Total</b>
		<b>Insignificant Growth</b>	<b>Significant growth</b>	
	Mid-stream Clean Catch	38 (35.2%)	70 (64.8%)	108
	Directly from urinary catheter	8 (30.8%)	18 (69.2%)	26
	Supra-Pubic Aspiration	0 (0%)	6 (100.0%)	6
	<b>Total</b>	<b>46 (32.9%)</b>	<b>94 (67.1%)</b>	<b>140</b>

Out of 185 patients with urinary tract infection, 63 patients (34%) had blood culture positive for the causative organism (table 6). 59 (93%) of the blood culture isolates were E. coli and 44 isolates (74.5%) were ESBL producers.

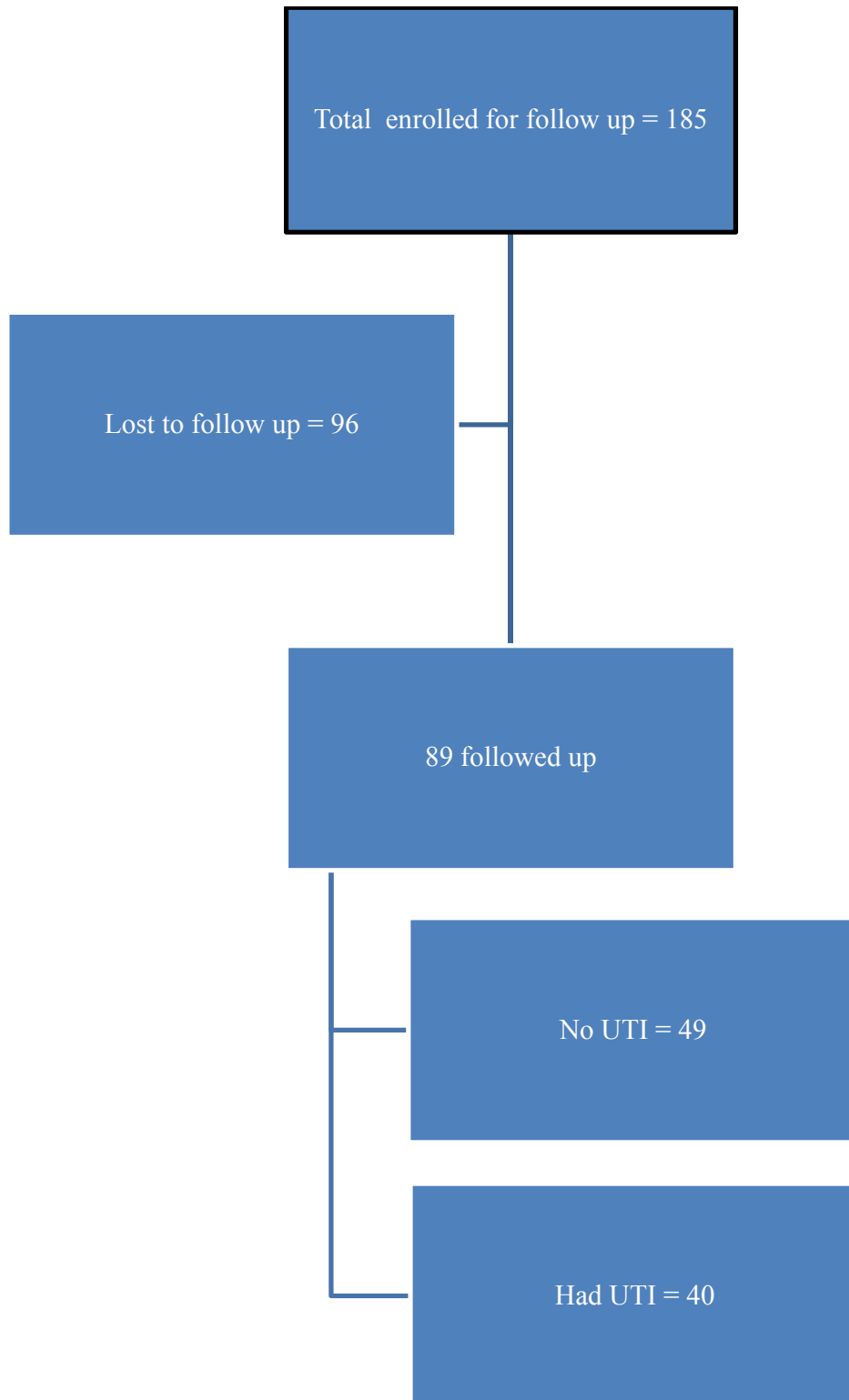
**Table 6 -Organism grown in blood culture (N=63)**

<b>Organism</b>	<b>Number(percentage)</b>
ESBL E. coli	44(69.9)
E. coli (non-ESBL)	15(23.8)
Klebsiella species	3(4.8)
S. aureus	1(1.6)

**Table 7. Initial choice of antibiotic**

	Initial choice of antibiotic for UTI	
	Frequency	Percent
Amikacin	8	4.3
Cephalosporins	8	4.3
Cefoperazone	4	2.2
Pipercillin-tazobactam	83	44.9
Co-trimoxazole	2	1.1
Fluoroquinolone	6	3.2
Ertapenem	40	21.6
Imipenem	1	0.5
Meropenem	29	15.7
Others	4	2.2
Total	185	100.0

The most common antibiotic of choice was Pipercillin-tazobactam (45%) followed by carbapenem (38%). Among the carbapenems, Ertapenem was the preferred agent due to its convenient once daily dosing and cheaper alternative in this class of antibiotic.



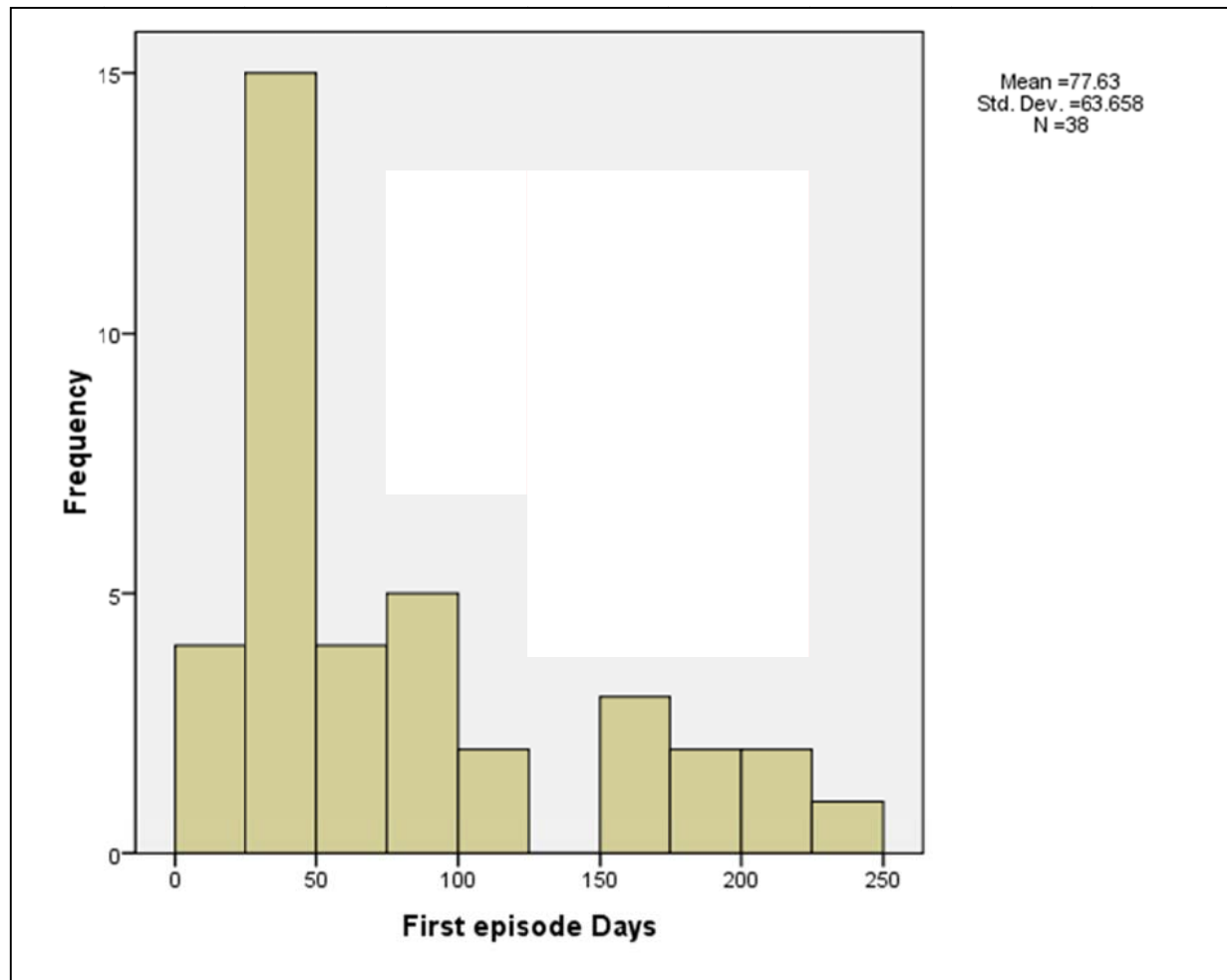


**Table 8. Follow up for recurrence:**

<b>Follow up</b>	<b>Number</b>	<b>Percentage</b>
<b>No. UTI episodes</b>	49	55.1
<b>UTI episode</b>	36	
<b>E Coli</b>	9	10.1
<b>Enterococci</b>	2	2.2
<b>ESBL E coli</b>	19	21.3
<b>Klebsiella</b>	2	2.2
<b>NFGNB &gt; 1000000</b>	1	1.1
<b>Pseudomonas significant</b>	1	1.1
<b>Culture Negative Pyelonephritis</b>	2	2.2
<b>Details not available</b>	4	

Total of 89 patients were followed up for a period of 3 years. The data for 4 patients was unavailable, therefore excluded from the analysis. 49 (57.6%) had no further UTI episodes while. Total of 36 (42.3%) patients had confirmed UTI (table 8, figure1). 28 out of 36 (93.3%) of the cases of the recurrent UTI was caused by E. coli.

**Figure 2. Time to first UTI**



The further analysis showed that the mean duration to first UTI was 77.6 days.

### **Risk factors associated with recurrent UTI:**

The most consistently associated risk factor for recurrent urinary tract infections was diabetes mellitus (Table 9a). Our study was in agreement with this well known fact and indeed of all the risk factors that were studied, despite the numbers being low, diabetes mellitus was the only risk factor that was found to be significantly associated with the development of recurrent UTI (p value – 0.067).

**Table 9a. Diabete as risk factor associated with recurrent UTI**

	Recurrent UTI		Total (row)
	Absent	Present	
Diabetic	29 (48.3%)	31 (51.7%)	60 (100.0%)
Non-diabetic	20 (69.0%)	9 (31.0%)	29 (100.0%)
Total (column)	49 (55.1%)	40 (44.9%)	89 (100.0%)

Other risk factors for recurrent UTI considered were the history of prior hospitalization, history of prior instrumentation of urinary tract or catheterization. On multivariate analysis, none of the risk factors was statistically significant. However, the odds ratio for developing recurrent UTI was 10 times higher among the patients who had prior history of catheterization, with a trend towards association but not statistically significant.

**Table 9 b. Other risk factors associated with recurrent UTI**

S. No	Risk Factors	OR (95% CI)	P-value
1.	Prior hospitalization	1.034 [0.44-2.42]	0.938
2.	History of instrumentation	4.5 [0.4-49.1]	0.207
3.	Prior history of Catheterization	10.8 [ 1.028-114.15]	0.26
4.	Procedures/interventions done during this admission		0.924

## Cohort - B

**Table 10. Demographic Profile:**

Age	Number (percentage)
<49	47(55.3)
50-59	15(17.6)
60-69	11(12.9)
>70	12(14.1)
Place	
Rural tamilnadu	11(12.9)
Urban tamilnadu	51(60)
Rural Andhra	12(14.1)
Others	11(12.9)
Gender	
Male	48(56.5)
Female	37(43.5)
Occupation	
House wife	31(36.5)
Unemployed/student	19(22.4)
Unskilled labourer	19(22.4)
Professional / skilled	16(18.8)
Place of catheterization	
Emergency	66(77.6)
Ward	13(15.3)
Else where	6(7.1)
Catheterized by	
Nurse	36(42.4)
Intern	33(38.8)
Registrar	3(3.5)
Technician / others	13(15.3)
Aseptic precautions followed	82(96.5)
Indications for catheterization	
Altered sensorium	40(47.1)
Shock	25(29.4)
Immobilization/ventilated patient	8(9.4)
Clinical deterioration	3(3.5)
Poisoning	1(1.2)
Seizures	8(9.4)
Mean duration of catheterization(days)	6.73
Removal of catheter	
Patient recovered	53(62.4)
Changed to condom	4(4.7)
Catheter in situ	7(8.2)
Death/discharge at request	21(24.7)

This Cohort of patients included more men than women and with most of the patients in the age group <49 yrs. This is the set of patients who are admitted for reasons other than urinary tract infection needing a catheter to be placed.

The majority of the patients were from urban Vellore presenting with a short duration serious illness requiring tertiary care.

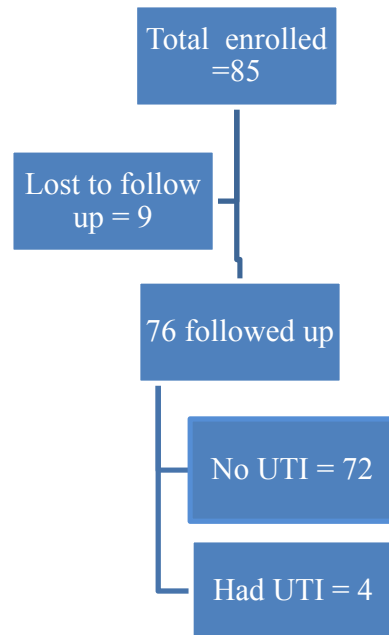
Of the women, they were mostly housewives. The most common diagnosis at presentation was altered sensorium due to various causes like seizures/cerebrovascular accident and other conditions that lead to debilitation such as meningitis/ventriculitis and SLE with nephritis. Deliberate self harm is the other commonest single diagnosis for which patients required catheterisation and monitoring.

The fact that the patients were mostly catheterized in the emergency indicates that these are unplanned admissions and the patients were probably very sick at presentation.

Most of them were catheterised by the nurses and the interns and few of them by the technicians.

According to the details available, aseptic precautions were followed in 97% of patients. As mentioned earlier, the indication for catheterisation was mostly the low sensorium of the patient.

Mean duration of catheterization was 6.7 days. However patients were quickly changed over to condom and the CBDs were removed except in those who died or those who got discharge against medical advice.



- 85 patients were included over the period of 11 months.
- 9 patients were lost to follow up.
- 76 patients were followed up with a median follow up period of 71.5 days.
- Of them, 4 had Catheter associated urinary tract infection while they were still admitted.

*Duration of follow up:* Patients were followed up for a minimum of 31 days to a maximum of 315 days with a median follow up period of 71.5 days. They were contacted over the phone to ask for any symptoms and signs suggestive of urinary tract infection on follow up.

**Table 11. Organism grown in culture:**

Organism isolated	Number (percentage)	Colony count	Interpretation
B-hemolytic Streptococci	1(1.2)		Insignificant
ESBL E.coli	7(8.2)	$>10^3$	Significant
E.coli	2(2.4)	$<10^3$	Insignificant
		$>10^3$	Probable significance
Enterococcus	7(8.2)	$10^3$ - $10^5$	Probable significance
		$>10^5$	Significant growth
Klebsiella	2(2.4)	$<10^5$	Probable significance
		$>10^5$	Significant growth
Pseudomonas	1(1.2)	$<10^5$	Probably Significant
Non Fermenting GNB	1(1.2)	$>10^5$	Significant
Candida	16(18.8)	$<10^4$	Probable colonization
		$10^4$ - $10^5$	Probable significance
		$>10^5$	Significant



The urine cultures were sent on the third day to document colonizers and to study the incidence of significant bacteriuria and the association of the colonizing organisms with the development of UTI. The common organism isolated in the 3<sup>rd</sup> day culture was colonization by candida and contaminants. A few isolates had 'probably significant' growth of gram negative organisms (ESBL E.coli,Pseudomonas,E.coli, Klebsiella).

Enterococcus as discussed in the literature review was one of the other predominant organisms isolated in these cultures.Though not usually associated with CAUTI, in our cohort,25% of the CAUTI was caused by Enterococcus.

# **Discussion**

## COHORT A :

Urinary tract infection has been one of the rewarding infections to treat for physicians, provided the right diagnosis is made and management of the disease is started right away. If treated appropriately the chances of complete recovery are extremely good.. On the other hand, if there's a delay in presentation and initiation of therapy, there is a significant risk of morbidity and mortality associated with the gram negative bacillary sepsis that ensues.

This study was done to describe the clinical profile of the patients who were admitted in a medical ward of a tertiary care centre with a diagnosis of urinary tract infection. We also followed up the patients prospectively after discharge for 6 months who had been catheterized for the development of catheter related UTI and those who discharged after treatment of UTI for the development of recurrence of infection.

Urinary tract infection, pyelonephritis and urosepsis are defined for this study as per the pre-defined and standard laid down criteria. We recruited 185 patients with a diagnosis of UTI, pyelonephritis and urosepsis admitted during the study period that is, 2008-2011 under a single medical unit.

### Demographic profile:

**Gender and Occupation:** Our patient cohort had almost equal number of men and women (47.6% vs 52.4%). Most of the women were housewives (94%) whereas unskilled and un-employed retired elderly male formed the majority of the male cohort (37.5% each). Most of the patients were from the local places of Tamil Nadu.

**Age-wise distribution:** While 33.4% of the patients belonged to the age group of less than 49 years; 66.6% of the patient belonged to age group more than 49 years comprising the majority.

### **Clinical characteristics:**

**Symptoms and signs:** The commonest presenting complaint was fever (88%) and dysuria (51%). However, only one third of the patients had renal angle tenderness. It was interesting to note that in the elderly age group who did not have significant dysuria or renal angle tenderness, altered sensorium was the most common complaint at the time of presentation (25%). Other non-specific symptoms included vomiting and dyspnoea.

**Co-morbidities:** In this study, the single most common comorbidity associated with UTI, pyelonephritis or urosepsis was diabetes mellitus (60.5%). The next most frequent comorbidity was post-menopausal state (40.5%). From the above discussion, we conclude that urinary tract infection is seen more frequently among the elderly due to higher prevalence of comorbidities i.e. Diabetes mellitus and post menopausal status, in this age-group.

However other comorbidities like, structural urogenital anomalies and debilitating conditions were less frequently found in our cohort of patients (17% and 5.4%, respectively).

### **Risk factors for recurrent urinary tract infection:**

History of prior catheterization was the strongest risk factor associated with the development of urinary tract infection (Odds ratio= 10.8) followed by history of instrumentation (Odds ratio = 4.5).

### **Diagnostic evaluation:**

With a suspected urinary tract infection, the most important cheaper and readily available initial investigation i.e. urine dip-stick test was done in 179 (~97%) patients. When individual components of Urinary dip-stick test e.g. Pyuria / leucocyte esterase / nitrites were compared with the confirmatory diagnosis, there was no significant association of either variable. Thus a combined interpretation of all the components of the urinary dip-stick is recommended for initial screening of suspected urinary tract infection.

Urine culture was done in 178 (96.2%) patients and there was significant growth in ~ 72%. The observed culture negativity in the remainder patient could be due to the history of being treated with antibiotics prior to admission as observed in 17.8% of patients in our study (the commonest used antibiotic group was the fluoroquinolones). *E. coli* was the most frequent organism among the urine culture isolates (58.4%). 63% of the *E. coli* isolates were ESBL producers. This corroborates the fact that there is increasing number of ESBL *E.coli* being isolated in patients with community acquired urinary tract infection.

Blood cultures showed growth in 34% of the patients. Again the commonest organism isolated was *Escherichia coli* with 74% of them being ESBL producers. We noticed high level of fluoroquinolone resistance in our cohort of patients with only 8% of them being sensitive to ciprofloxacin. We have also noted a significant resistance to piperacillin – tazobactam (~ 32%) which is of concern as many tertiary centers start on a broad spectrum antibiotic, the first choice being piperacillin tazobactam. The ‘inoculum effect’ of piperacillin tazobactam, is of concern with such high levels of resistance as this might lead to incomplete microbiological clearance and recurrence of UTI and.

Hence we recommend Carbapenem, preferably Ertapenem as an empirical choice of antibiotic for seriously ill patients admitted with suspected urinary tract infection in our hospital considering the antibiogram where E coli is the commonest organism with high rates of ESBL producers.

Our center has published data in the last decade(2005) regarding the resistance patterns of E.coli.(44)

Comparing the then data and now:-

Resistance rates of E. Coli

<b>Antibiotic</b>	<b>2005</b>	<b>2012(our study)</b>
Cotrimoxazole	36%	29%
Nitrofurantoin	73%	89%
Amikacin	78%	85%
Gentamicin	60%	43%
Ciprofloxacin	38%	14%
Cefuroxime/cefotaxime (comparable to cefpodoxime)	62%	26%

This comparison clearly warns us about the emerging resistance pattern among the community acquired E. coli urinary tract infection.

Excepting for nitrofurantoin and amikacin, all other antibiotics compared here, have shown emerging patterns of resistance. Resistance is more pronounced to fluoroquinolones rendering them of little benefit

in the community and resource limited settings where these antibiotics are used for first line of therapy of UTI.

### **Outcomes:**

The outcomes of all these patients who have been admitted with urinary tract infection were looked at.

- a) Cure / Death / DAMA
- b) Factors that favor /associate with mortality-
  - a. Presence of Bacteremia,
  - b. Critically ill requiring ICU care at presentation,
- c) First choice of antibiotic.
- d) Follow up- recurrence
  - Incidence, at first episode- common organism, and time to first episode.
  - Additional risk factors;
    - o Duration of catheterization,
    - o Blood organism,
    - o Severity of infection at index admission: Ultrasound kidney appearance at admission as surrogate marker of severity.

Outcome (N=185)	Number (%age)
Cured	
Clinical	155 (83.8)
Bacteriological	80 out of 96 culture done (83.3)
Death	15 (8.1)
Discharged against medical advise	50 (27.0)

Out of the 185 patients enrolled and followed up during the hospitalization, more than 83% of the patients had clinical as well documented microbiological cure. However 15 patients (8%) patients expired during the hospital stay.

We analyzed the 15 patients who expired and compared the following variables to further ascertain the risk of death in urinary tract infection.

#### A). Comparison of outcome based on blood culture isolate:

	Blood culture isolate					
		Sterile	E coli	Klebsiella	S. aureus	Total
Outcome	Expired	10 (66.7%)	3 (20.1%)	1 (6.7%)	1 (6.7%)	15
	Alive	112(65.9%)	56 (32.9%)	2 (1.2%)	0	170
	Total (column)	122 (65.9%)	59 (31.9%)	3 (6.1%)	1 (0.5%)	185

The above table shows that 33.3% of the patients in the expired group and 34.1% of the patients those who were alive at discharge were bacteremic. This difference was not statistically significant.

#### B). Comparison of outcome based on severity of illness at admission:

The severity of illness at admission did not correlate significantly with the mortality. However, admission into ICU/HDU at admission was significantly associated with less mortality probably because the patients admitted into ICU/HDU at admission were intervened at the right time.



### *Initial choice of antibiotic for empirical treatment:*

Majority of the patients (~45%) were initiated on Piperacillin-tazobactam and 38% patients were initiated on carbapenem empirically. This is in keeping with the hospital antimicrobial policy based on local antimicrobial susceptibility pattern and guidelines issued by the hospital infection control committee (HICC).

### *Follow up for recurrence:*

Out of 89 patients on follow up, after excluding the 4 patients whose data was incomplete, 42.3% patients had recurrent UTI after a mean period of 77 days. Even in the cases of culture proven UTI, E.coli remains the most important causative agent (93.3%).

As discussed earlier, Diabetes mellitus was the risk factor consistently associated with recurrence of UTI.

# COHORT B

This cohort included patients who have been catheterized for reasons other than Urinary tract infection and the The urine cultures were sent on the third day to document colonizers and to study the incidence of significant bacteriuria and the association of the colonizing organisms with the development of UTI. The common organism isolated in the 3<sup>rd</sup> day culture was colonization by candida and contaminants. A few isolates had probably significant growth of gram negative organisms (ESBL E.coli,Pseudomonas,E.coli, Klebsiella). However, patients were treated based on the clinical suspicion rather than just based on the interpretation of the culture report. There was no significant association between the organism isolated to the risk of development of UTI or death due to CAUTI on follow up.

CAUTI incidence was 4.7% (4/85) in our cohort of patients.

All the above patients were housewives. Three of them were from in and around Vellore.

It is interesting to note that all of them developed CAUTI during this hospital admission .

Average duration of catheterization was found to be 5.25 days (maximum of 7 days and a minimum of 3 days).

**Analysis of the patients who had CAUTI :**

➤ Clinical feature	➤ Finding
➤ Gender	➤ Female 4/4
➤ Age	➤ 56-66
➤ Occupation	➤ Housewives(4/4)
➤ Place	➤ 3/4 urban tamilnadu
➤ Primary diagnosis	➤ chronic disease(3/4) ➤ scrub typhus(1/4)
➤ Culture on day 3	➤ ESBL E coli (1/4) ➤ Enterococci(2/4) ➤ No growth (1/4)
Average duration of catheterisation	➤ 5.25 days
➤ Time to first urinary symptom	➤ 8.25 days
➤ Symptom	➤ Fever(2/4) ➤ No symptoms(2/4)
➤ Organism isolated during CAUTI	➤ Enterococci(1/4) ➤ Enterococci/E.coli(1/4) ➤ ESBL E.coli(2/4)
➤ Antibiotic used	➤ Linezolid(1/4) ➤ Piperacillin Tazobactam (1/4) ➤ Ertapenem(1/4) ➤ Colistin/rifampicin(1/4)
➤ Outcome	➤ Death (1/4) ➤ Recovered (3/4)
➤ Mean duration of hospital stay	➤ 17.25

Only one of the patients had diabetes mellitus while the other two had hypertension and cerebrovascular accident. One of the patients had scrub typhus.

As described in the literature patients were mostly asymptomatic, with new onset fever in two out of four patients.

Culture done on day 3 of catheterization showed significant growth in 3 patients, Enterococci isolated in two patients and ESBL E Coli in one. The organism isolated during the episode of urinary tract infection, was the same as the colonizing organism that was grown on culture done on day 3. This shows that urinary tract was colonized by uropathogenic organism as early as day 3. However, the time taken to manifest the first systemic symptom was an average of 8.2 days. All four patients were treated with appropriate antibiotics.

Mean duration of total hospital stay was 17 days, and mortality was 25%.

Though the numbers were small, the risk of mortality was 25% in patients with Catheter associated Urinary tract infection which is significant and is preventable by avoiding unnecessary catheterizations wherever necessary.

# Conclusion

#### Cohort A:

This cohort study showed that community acquired urinary tract infection occurs in increased frequency among those who are older than 49 years. At age over and above 49 years, the incidence of UTI is almost as frequent among males as in females. Diabetes and post-menopausal state are the most frequent associated comorbidity among the patients with UTI.

A vast majority of the community acquired UTI are caused by *Escherichia coli*. In our hospital the prevalence of extended spectrum beta lactamase producers rate are quite high, hence the initial therapy of choice is beta-lactam/beta-lactamase inhibitor combination (e.g. Piperacillin-tazobactam) or carbapenem (especially in patients who are critically ill at presentation).

#### Cohort B:

The incidence of catheter associated UTI was 4.7% (comparable to the international data) .

The colonization of the urinary tract with uropathogenic organism can occur as early as 3 days following the catheterization and the common ,organisms isolated was *E Coli*.. Though the numbers were small. the morality risk was 25%.

Hence it is prudent to avoid unnecessary catheterizations and when ever possible to remove the catheter to prevent development of catheter associated UTI.

Further research is needed to estimate the true incidence and risk factors for CAUTI.

# **Limitations:**

1. The sample size of this cohort does not give adequate power to derive the risk factors for UTI or recurrent UTI and mortality rate.
2. Inadequate follow up of the patients after discharge makes the correct diagnosis of recurrent UTI difficult.
3. Significant number of Deaths and Lost to follow up in Cohort B, would have affected the true incidence of Catheter associated UTI.



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SNo	HospitalNum	Name	NAge	Gender	MaritalStat	Noccupat	Place	gnosisPrim	verWithCh	Dysuria	RenalAn	ucocyt	rinecultu	organism	umberofC	loodcultu	Organism	Seconda	Dm	htn	Como
1	441049d	RAJAM	59	2	2	1	1	1	1	1	1	1	2	No growth		1	ESBL E.CO	1	1	1	1
2	460164D	SHAMEEN BASHA	55	1	2	4	1	1	1	1	1	2	2	No growth		2	No growth	1	1	1	1
57	901116D	Jothilingam	58	1	2	4	1	2	1	1	1	1	2	No growth		1	ESBL E.CO	1	1	2	2
4	460127D	MALLIGA	44	2	2	1	1	1	1	2	2	1	2	No growth		2	No growth	1	1	1	1
5	326014D	JAYAPALAN	62	1	2	4	1	2	1	1	1	1	1	ESBL E.CO	2	1	ESBL E.CO	1	1	2	2
6	452371D	PAMRVATHI DEVI	49	2	2	1	4	2	1	1	1	1	1	ESBL E.CO	2	1	ESBL E.CO	1	1	1	1
13	633592D	KALA DEVI	55	2	2	1	1	2	1	1	2	1	2	No growth		1	ESBL E.CO	1	1	2	2
14	225887C	RAJATHI	64	2	2	1	1	1	1	2	2	2	1	KLEBSIELL	2	2	No growth	1	1	1	2
15	528706D	LIANSWAMI	63	1	1	4	4	2	1	1	1	1	1	E Coli		2	No growth	1	1	1	1
16	211511B	REV.THOMAS	75	1	1	2	1	1	1	1	1	1	1	PSEUDOM	1	2	No growth	1	2	1	1
17	625148D	VALLIYAMMAL	69	2	2	1	1	1	1	1	2	1	2	No growth		2	No growth	1	1	2	1
18	651454d	KARUNANIDHI	40	1	2	2	1	1	1	1	2	1	2	No growth		2	No growth	2	2	2	1
7	470303D	PARUL MAJI	46	2	2	1	3	1	2	2	2	2	1	ESBL E.CO	1	2	No growth	2	2	2	1
8	173601D	BALA CHANDRAN	62	1	2	4	1	2	1	1	2	1	2	No growth		2	No growth	1	1	2	1
9	089935C	THAVAMANI	63	2	2	1	1	3	1	1	2	1	1	ESBL E.CO	1	1	ESBL E.CO	1	1	1	1
10	419862D	CHENGALRAYALU	54	1	2	2	2	1	1	1	1	1	1	ESBL E.CO	1	1	ESBL E.CO	1	1	2	1
12	538047A	PRABASKAR	37	1	2	4	1	2	1	1	1	1	2	No growth		2	No growth	1	1	2	1
119	872801B	JAYALAKSHMI	60	2	2	1	2	3	1	2	2	1	1	E Coli	2	1	E Coli	1	1	2	1
120	423329D	INIYAVAN JOSEPH	28	1	2	3	1	1	1	2	1	1	1	E Coli	2	2	No growth	2	2	2	1
121	365675D	MOHAN	56	1	2	2	1	3	1	1	1	1	1	E Coli	2	2	No growth	1	1	2	2
122	497242C	VENKATARATHINAN	81	1	2	3	2	1	1	2	2	2	1	ESBL E.CO	2	2	No growth	1	1	1	1
123	534965B	MESHAK	64	1	2	4	2	2	1	1	1	1	1	ESBL E.CO	2	1	ESBL E.CO	1	1	2	1
124	564957C	TULASI	52	2	2	1	1	1	1	1	1	1	1	ESBL E.CO	2	2	No growth	2	2	2	1
125	587326B	JAYANTHI	35	2	2	1	1	1	2	2	2	1	1	ESBL E.CO	1	2	No growth	1	2	1	1
126	630017D	GOWRI	51	2	2	1	1	3	1	1	2	1		No growth			E Coli	1	1	2	2
127	686562D	EMILYA RANI	61	2	2	1	2	1	2	2	2	1	2	No growth		2	No growth	2	2	2	1
128	793694c	SHAKUNTALA AGGA	63	2	2	1	4	1	2	1	2	2	1	ESBL E.CO	1	2	No growth	1	1	1	1
129	843055B	JESSIE BAI	61	2	2	1	1	2	1	2	1	1	1	ESBL E.CO	1	1	ESBL E.CO	1	1	1	1
130	882437D	MAGALINGAM	67	1	2	4	1	2	1	1	1	1	1	ESBL E.CO	1	2	No growth	1	1	1	1
131	003252F	RAMYA RAJAN	19	2	1	3	4	2	1	1	1	1	1	E Coli	1	2	No growth	2	2	2	2
132	036022	JESSIE	62	2	2	1	1	2	1	2	2	1	1	ESBL E.CO	1	2	No growth	2	2	2	1
133	159577F	SHAIK JHULEKHA	63	2	2	1	2	2	1	1	1	1	1	Candida	1	2	No growth	1	1	1	1
134	168297F	KUPPUSWAMY	80	1	2	3	1	1	1	2	1	1	1	E Coli	1	2	No growth	1	1	2	1
19	182267A	PADMAVATHY	65	2	2	1	1	1	2	1	1	1	1	E Coli	2	2	No growth	1	1	1	1

20	564879A	SAMUEL S	82	1	2	3	1	3	1	1	2	1	2	No growth		1	E Coli	1	1	1	2
21	494054D	SAROJA	55	2	2	1	1	1	1	1	2	1	1	MIXTURE OF ORGAN		2	No growth	1	2	1	1
22	882437D	MAGALINGAM	66	1	2	4	1	2	1	1	1	1	1	ESBL E.CO	1	1	ESBL E.CO	1	1	2	1
23	895709D	PEDDDAREDDAPPA	55	1	2	4	2	2	1	1	2	2	2	No growth		2	No growth	1	1	2	2
24	885913D	ASTO MONDAL	42	2	2	1	3	2	1	1	2	1	1	ESBL E.CO	1	2	No growth	1	1	2	2
25	875062D	MOORTHY R M	61	1	2	2	1	1	2	2	2	1	1	PSEUDOM	1	2	No growth	2	2	2	2
26	911567D	MARY STELLA	53	2	2	1	1	2	1	2	1	1	1	ESBL E.CO	2	2	No growth	1	1	2	1
27	355612b	KANNAN	59	1	2	4	1	2	1	1	1	1	1	ESBL E.CO	2	2	No growth	1	1	1	2
28	613347D	CHANDRAMMAL	75	2	2	1	1	3	1	2	2	1	1	E Coli	2	1	E Coli	1	1	1	1
29	166024D	CHANDRAVANI	66	2	2	1	1	3	1	1	2	1	2	No growth		1	ESBL E.CO	1	1	2	1
30	549399D	MAHESWARI	60	2	2	1	1	2	1	2	2	1	2	No growth		2	No growth	1	1	1	1
31	885042D	KALI KUMAR SARKA	54	1	2	2	4	1	1	1	1	1	1	ESBL E.CO	1	1	ESBL E.CO	1	1	2	1
32	839935C	KROSPARI	39	2	2	1	4	3	1	1	2	1	1	E Coli	1	1	E Coli	1	1	1	1
33	484123D	CHAKKUBAI	55	2	2	1	1	3	2	2	2	1	1	ESBL E.CO	1	1	ESBL E.CO	2	2	2	2
34	569715B	DEVA	74	2	2	1	1	1	2	2	2	1	1	E Coli	1	2	No growth	2	2	2	1
35	185226F	LATHA	38	2	2	1	1	2	2	2	2	1	1	E Coli	1	2	No growth	2	2	2	1
36	191303F	YELLAMMAL	48	2	2	1	1	1	1	1	1	1	2	No growth		2	No growth	2	2	2	1
37	569880D	MERCY	28	2	2	1	1	2	1	1	1	2	2	No growth		2	No growth	2	2	2	1
38	179245F	GRACE AMMAL	73	2	2	1	1	2	1	1	1	1	2	No growth		2	No growth	2	2	2	1
39	049653F	FATIMA BI	78	2	2	1	1	1	2	1	1	1	1	ENTEROCC	2	2	No growth	1	1	2	1
40	048765f	SANJEEVI	42	1	2	2	1	1	1	1	2	1	1	ESBL E.CO	1	2	No growth	1	1	2	2
41	151993F	VIJAYAN	74	1	2	2	1	2	1	1	2	1	1	ESBL E.CO	1	2	No growth	2	2	2	1
42	025567D	NARESH	27	1	1	2	1	2	1	1	1	1	1	ESBL E.CO	2	2	No growth	2	2	2	2
43	098548F	ARUMUGAM	62	1	2	4	1	2	1	2	2	1	1	E Coli	1	1	ESBL E.CO	1	1	1	1
44	098515F	BALAKRISHNAN	77	1	2	3	1	1	1	1	2	1	1	ESBL E.CO	1	2	No growth	1	1	1	1
45	093269F	ALOKA JANA	47	2	2	1	3	1	1	1	2	1	1	ESBL E.CO	1	2	No growth	2	2	2	1
46	554347D	MANI	55	1	2	4	1	2	1	1	2	1	1	E Coli	2	2	No growth	2	2	2	2
47	572148D	ANIL	40	1	2	4	1	3	1	1	1	1	1	E Coli	1	1	E Coli	1	1	2	2
48	271349D	ATHISAYARAJ	31	1	1	3	1	1	1	1	2	1	2	No growth		2	No growth	2	2	2	2
49	513743D	SRINIVASAN	40	1	2	2	1	2	1	1	2	1	1	ESBL E.CO	1	2	No growth	1	1	1	1
50	670630B	GOVINDAN	68	1	2	4	1	1	1	1	2	1	1	ENTEROCC	1	2	No growth	1	1	2	1
51	183175b	ROSELINE VIOLET R	45	2	2	2	1	1	1	1	1	1	1	ESBL E.CO	2	1	ESBL E.CO	1	1	2	1
52	770913B	ANDAL	61	2	2	1	1	3	1	1	1	1	1	Candida	1	2	No growth	1	2	1	1
53	382845C	SUNDARESAN	73	1	2	3	1	2	1	2	2	1	2	No growth		2	No growth	1	2	1	1
54	606805D	SHANMUGAM	81	1	2	3	1	1	2	2	2	1	1	Pseudomc	1	2	No growth	1	1	2	1

55	507074A	VIJAYALAKSHMI	54	2	2	1	2	3	1	1	1	1	1	ESBL E.CO	2	1	ESBL E.CO	1	1	1	2
56	481013D	SHYAMKUMAR PRA	57	1	2	2	4	2	2	1	2	1	1	ESBL E.CO	1	2	No growth	1	1	2	2
57	481756D	SHALINI BENGANI	28	1	1	2	4	2	2	1	1	1	2	No growth		2	No growth	2	2	2	1
58	484195d	SUBRAMANI	55	1	2	4	1	1	2	2	1	1	1	E Coli	2	2	No growth	1	1	1	1
59	882254D	PADMINI	45	2	2	1	1	1	1	2	2	1	1	GNB	1	2	No growth	2	2	2	1
60	616393D	SUNITHA	33	2	2	1	2	1	1	2	2	1	1	ESBL E.CO	2	2	No growth	2	2	2	2
61	989641C	GIRIJA	38	2	2	2	1	2	2	1	1	1	2	No growth		2	No growth	1	1	1	2
62	651314D	NARAYANA	46	1	2	4	2	2	1	1	1	2	2	No growth		2	No growth	1	1	2	1
63	664114D	SAROJA	63	2	2	1	1	3	1	2	1	1	1	ESBL E.CO	1	2	No growth	1	1	1	1
64	673061B	MUNISWAMY	70	1	2	3	1	1	1	2	1	1	2	No growth		2	No growth	1	1	1	1
65	385383d	VEERASWAMY	68	1	2	1	1	1	1	1	2	2	1	Candida	2	2	No growth	1	1	1	1
66	615888B	PADMANABHAN	66	1	2	3	1	2	1	1	1	1	1	ESBL E.CO	1	1	ESBL E.CO	1	2	1	1
67	975022A	MINOTI HAZRA	62	2	2	1	3	3	1	1	2	1	1	ESBL E.CO	2	1	ESBL E.CO	1	2	1	1
68	505597D	KUPPAMMAL	70	2	2	1	1	1	1	1	2	1	1	KLEBSIELL	1	2	No growth	1	1	1	1
69	504052D	SUDHAKAR	51	1	2	2	1	2	2	2	1	1	1	E Coli	2	2	No growth	2	2	2	1
70	475664D	ASIYA	65	2	2	1	1	1	1	2	2	2	1	KLEBSIELL	1	2	No growth	2	2	2	1
71	685344C	DEVI	25	2	2	1	1	2	1	1	1	1	1	ENTEROCO	2	2	No growth	1	1	2	1
72	500517D	SAROJAMMA	72	2	2	1	1	1	2	2	2	2	1	E Coli	1	2	No growth	1	1	1	1
73	427083D	GOVINDARAJ	78	1	2	3	1	3	1	2	2	1	1	Candida	1	1	KLEBSIELLA	1	1	1	1
74	504091D	RADHA	45	2	2	1	1	3	1	2	2	1	1	ESBL E.CO	1	2	No growth	2	2	2	2
75	102179F	SHEKAR	49	1	1	2	1	2	1	1	1	1	1	ESBL E.CO	2	2	No growth	2	2	2	2
76	107034F	SHANMUGAM	62	1	1	3	1	2	1	2	1	1	1	Candida	1	1	ESBL E.CO	1	1	2	1
77	107048F	ADHAR ADHIKARY	35	1	1	4	3	1	1	2	1	2	1	ENTEROCO	2	1	ESBL E.CO	2	2	2	1
78	107465F	LALITHA	21	2	2	1	2	1	1	2	2	1	1	E Coli	1	2	No growth	2	2	2	1
79	110033F	SARASWATI	56	2	2	1	1	1	1	2	2	1	1	E Coli	1	2	No growth	1	1	2	1
80	110147F	VIJAY	19	1	1	3	1	1	1	2	2	1	1	ESBL E.CO	1	2	No growth	2	2	2	2
81	117315F	IBRAHIM	26	1	1	4	1	2	1	1	1	1	1	ESBL E.CO	1	1	ESBL E.CO	2	2	2	2
82	119206F	SUDHA	26	2	2	1	1	2	1	1	1	1	1	ESBL E.CO	1	1	ESBL E.CO	2	2	2	2
83	589899C	SULOCHANA`	69	2	2	1	1	3	1	1	2	1	2	No growth		2	No growth	1	1	2	1
84	951222C	NAGAMMAL	69	2	2	1	1	1	1	2	2	1	1	E Coli	2	2	No growth	1	1	1	1
85	562286D	EK BAHADUR GURU	50	1	2	4	4	2	1	1	1	1	1	ESBL E.CO	1	2	No growth	2	2	2	1
86	429068d	MEENAKSHI SUNDA	63	1	2	3	1	3	1	1	2	1	1	ENTEROCO	2	1	ESBL E.CO	1	1	2	1
87	577141D	RAMAKRISHNAN	75	1	2	3	1	1	1	1	2	1	2	No growth		2	No growth	1	1	1	1
88	540153D	KISHORE SINHA	35	1	2	4	3	1	1	1	2	1	1	Pseudomc	1	2	No growth	1	1	2	1
89	106586D	SAROJA	62	2	2	1	1	1	2	1	2	1	2	No growth		2	No growth	1	1	1	1

90	229547D	PRABHU	23	1	1	4	1	1	1	1	2	1	2	No growth		2	No growth	2	2	2	1
91	233114D	SURYA BEGUM	50	2	2	1	1	2	1	1	2	1	2	No growth		2	No growth	1	1	2	1
92	106287D	VIMALA	51	2	2	1	1	3	1	1	2	1	1	E Coli	1	1	E Coli	2	2	2	1
93	567200D	VARADHAN	70	1	2	4	1	1	1	2	2	1	1	E Coli	2	2	No growth	1	2	1	1
94	450476D	TUSLIMA BEGUM	60	2	2	1	1	3	1	2	2	1	1	Candida	1	1	STAPH AU	1	1	1	1
95	361267B	BASHA	60	1	2	4	1	1	1	2	2	2	1	ENTEROCC	1	2	No growth	1	2	1	1
96	147891f	KUMUDAM	51	2	2	1	1	2	1	1	1	1	1	E Coli	2	1	E Coli	1	1	2	1
97	140383F	SAMPATH	59	1	2	2	2	2	1	1	2	1	1	ESBL E.Col	1	1	ESBL E.COL	1	1	2	2
98	133474F	ALAMELU	44	2	2	1	1	2	1	1	1	1	1	ESBL E.Col	2	2	No growth	2	2	2	1
99	126466F	PADMASINI	47	2	2	1	1	1	1	1	2	1	2	No growth		2	No growth	1	1	2	2
100	152084F	LAKSHMI NARAYAN	75	1	2	3	2	3	1	1	2	1	2	No growth		1	ESBL E.COL	1	1	2	2
101	152086F	RAJAMOHAN	20	1	1	3	1	3	1	2	2	1	2	No growth		1	E Coli	2	2	2	2
102	282500B	MUZIBUR RAHMAN	29	1	1	3	3	2	1	2	1	1	2	No growth		2	No growth	2	2	2	1
103	363366D	MAHALAKSHMI	31	2	2	1	1	3	2	2	2	1	2	No growth		1	ESBL E.COL	2	2	2	1
104	520662D	CHINNAPIE	50	2	2	1	1	1	1	2	2	1	1	ESBL E.Col	1	2	No growth	2	2	2	1
105	094569f	MOULA	27	1	2	4	2	2	1	1	2	1	2	No growth		1	ESBL E.COL	2	2	2	2
106	115744F	PERAMMA	64	2	2	1	2	1	1	2	2	2	1	Candida	1	2	No growth	1	1	1	1
107	590443D	KIRUBANANDAM	55	1	2	2	1	2	1	1	2	1	1	ESBL E.Col	1	2	No growth	2	2	2	2
108	953581C	MANIKAMMA	53	2	2	1	1	1	2	2	1	1	1	ESBL E.Col	1	2	No growth	2	2	2	2
109	985754C	GNANAMANI	40	2	2	1	1	2	1	2	1	1	1	E Coli	1	1	E Coli	2	2	2	1
110	999428c	RAVI	46	1	2	2	1	2	1	2	1	1	1	E Coli	2	1	ESBL E.Col	1	1	2	2
111	MANI	995098C	55	1	2	4	2	2	1	1	2	1	1	E Coli	1	2	No growth	1	1	2	1
112	035535C	NIRMALA	33	2	2	1	1	2	1	1	1	2	1	E Coli	1	2	No growth	1	1	2	1
113	407380D	KRISHNAMURTHY	58	1	2	2	1	3	1	2	2	1	1	ESBL E.Col	2	1	ESBL E.Col	1	1	1	2
114	423973D	SHELLA MUTHU	62	1	2	4	1	2	1	1	2	1	1	ESBL E.Col	1	2	No growth	1	2	1	2
115	465699D	DORASWAMY REDD	82	1	2	3	2	3	1	2	2	1	1	E Coli	2	1	E Coli	1	1	2	1
116	420554D	BECHURAM MANN	48	1	2	4	3	1	1	2	2	1	1	E Coli	1	2	No growth	1	1	2	1
117	469119C	SHAKUNTALA SINHA	58	2	2	1	4	3	1	2	2	1	1	ESBL E.Col	1	1	ESBL E.Col	1	1	2	1
118	444055D	MEHARAJ	33	2	2	1	1	1	1	1	2	2	1	ENTEROCC	1	2	No growth	2	2	2	1
135	169405F	SANTHOSH KUMAR	47	1	2	4	4	1	1	2	2	2	1	ESBL E.Col	1	2	No growth	1	1	1	1
136	170094F	MUNIAMMAL	47	2	2	1	1	2	1	1	1	1	1	ESBL E.Col	2	1	ESBL E.Col	1	1	2	1
137	170100F	THANGAMANI	75	2	2	1	1	2	1	1	1	1	2	No growth		1	ESBL E.Col	2	2	2	1
138	171904d	ANAND KUMAR	40	1	2	4	1	1	1	1	2	1	1	ESBL E.Col	1	2	No growth	2	2	2	1
139	174323F	AMMAKANNU	77	2	2	1	1	2	1	2	1	1	1	E Coli	1	1	E Coli	1	1	2	1
140	180230F	RAMANUJAN	61	1	2	3	1	1	1	2	2	2	1	E Coli	1	2	No growth	1	2	1	1



141	180693F	SELVAA VINAYAGA	18	1	1	3	1	2	1	1	1	1	1	E Coli	1	1	ESBL E.Coli	2	2	2	2
142	173213C	RADHA BHAI	69	2	2	1	1	2	1	2	2	1	1	E Coli	1	1	ESBL E.Coli	1	1	2	1
143	170078F	PARIMALA	39	2	2	1	1	2	1	1	1	1	2	No growth		1	E Coli	2	2	2	2
144	194056F	BHASKAR	40	1	2	3	1	2	1	1	1	2	1	E Coli	1	2	No growth	1	1	2	1
145	194417F	ERUSAMMAL	87	2	3	3	1	2	1	2	1	2	1	Klebsiella	2	1	KLEBSIELLA	1	1	1	1
146	194613F	JYOTHI	40	2	2	1	1	2	1	2	1	1	1	Klebsiella	2	2	No growth	1	1	2	1
147	199733F	PONNUSAMY	85	1	2	3	1	3	1	2	1	1	2	No growth		2	No growth	2	2	2	1
148	888913c	HENA BEGUM	57	2	2	4	3	2	2	2	2	2	1	ESBL E.Coli	1	2	No growth	1	1	1	1
149	449022D	PADMAVATHI	46	2	2	1	1	1	1	1	2	1	1	ESBL E.Coli	1	2	No growth	1	1	2	1
150	451312D	SWAPNA LAHA	50	2	2	1	3	1	1	2	2	2	1	E Coli	1	1	E Coli	2	2	2	1
151	452590D	VISALAKSHI	55	2	2	1	1	2	2	2	2	2	1	ESBL E.Coli	1	1	ESBL E.Coli	1	1	2	1
152	461665D	ANNAPURNAM	73	2	2	1	2	1	2	2	1	1	1	Klebsiella	1	2	No growth	1	2	1	1
153	211898F	ELUMALAI	67	1	2	3	1	1	1	2	1	1	2	No growth		2	No growth	1	1	2	1
154	215139D	KRISHNAMURTHY	86	1	2	3	1	3	1	1	2	1	1	E Coli	1	1	E Coli	2	2	2	1
155	222394F	KASTHURI	45	2	2	1	2	2	1	1	2	1	2	No growth		2	No growth	1	1	1	1
156	533643A	MOHAN RAJ	61	1	2	3	1	2	2	1	2	1	1	ESBL E.Coli	1	1	ESBL E.Coli	1	1	1	1
157	231824f	YASODHA	53	2	2	1	1	2	1	1	2	1	1	Candida	2	1	ESBL E.Coli	1	1	1	1
158	234808F	PALANI	61	1	2	4	1	1	1	2	2	1	1	ESBL E.Coli	1	2	No growth	2	2	2	2
159	235831F	KALIDAS ROY	72	1	2	3	4	1	1	1	2	1	1	ESBL E.Coli	1	2	No growth	2	2	2	1
160	240558F	VENKATASWAMY	86	1	2	3	2	3	2	2	2	1	1	E Coli	1	2	No growth	1	1	2	1
161	240746F	MANIKAM	70	1	2	3	1	2	1	1	2	1	2	No growth		1	ESBL E.Coli	1	1	1	1
162	240997F	KARUNAKARAN	40	1	2	2	1	1	1	2	1	1	1	Klebsiella	1	2	No growth	2	2	2	2
163	252477F	RAMANUJAM	70	2	2	1	1	2	1	2	1	1	2	No growth		1	ESBL E.Coli	1	1	1	1
164	252920F	MARIAMMA	48	2	2	1	1	1	1	2	2	1	1	ESBL E.Coli	1	1	ESBL E.Coli	1	1	2	1
165	257969F	SARASWATHI	43	2	2	1	1	1	1	1	1	2	1	ESBL E.Coli	1	2	No growth	1	1	2	1
166	526296D	FATIMA	62	2	2	1	1	1	1	1	1	1	1	ESBL E.Coli	1	2	No growth	1	1	1	1
167	557491C	MUJIR	54	1	2	2	1	2	1	2	1	1	1	ESBL E.Coli	1	2	No growth	1	1	1	1
168	787707B	RAJAMMAL	65	2	2	1	1	1	1	2	1	1	2	No growth		2	No growth	1	1	2	1
169	963424A	SAROJAMMA	75	2	2	1	1	2	1	1	1	1	2	No growth		1	E Coli	1	1	1	1
170	034480C	ADILAKSHMI	72	2	2	1	1	2	1	2	2	2	2	No growth		2	No growth	1	1	2	1
171	079791B	KALAVATHI	57	2	2	1	1	2	2	2	2	2	1	E Coli	1	1	E Coli	1	1	2	1
172	130884F	RAJENDRA PRASAD	60	1	2	3	3	2	1	2	1	1	1	Klebsiella	2	2	No growth	2	2	2	1
173	218613C	UMA MAHESHWAR	50	2	2	1	2	1	1	1	1	1	1	ESBL E.Coli	1	2	No growth	1	1	1	1
174	246787F	SAJIDA	20	2	2	1	2	1	1	1	1	1	1	ESBL E.Coli	1	1	ESBL E.Coli	2	2	2	1
175	269207F	THASIL NAIDU	88	1	2	3	1	3	1	2	1	1	2	No growth		2	No growth	2	2	2	2

176	591237D	KOTHAMMAL	53	2	2	1	1	1	1	1	1	1	2	No growth		2	No growth	2	2	2	1
177	082402F	NASIM BIBI	33	2	2	1	3	2	1	1	1	1	2	No growth		2	No growth	2	2	2	1
178	130231F	PREMA DEBI	49	2	2	1	4	1	2	1	1	2	1	ESBL E.Col	1	2	No growth	1	1	2	1
179	169615F	SALAMAN	57	1	2	4	2	1	1	1	1	1	1	E Coli	1	2	No growth	1	1	2	1
180	221820D	ANWAR	66	1	2	3	1	2	1	1	1	1	1	ESBL E.Col	2	2	No growth	1	1	1	1
181	222304F	CHANDRA BABU	45	1	2	4	1	1	1	1	1	2	1	E Coli	1	2	No growth	2	2	2	1
182	222643F	SUNDARAMURTHY	60	1	2	2	1	1	1	1	2	1	1	E Coli	1	2	No growth	1	1	1	1
183	222888F	NAGARATNAM	63	2	2	1	4	1	1	2	1	1	2	No growth		2	No growth	2	2	2	1
184	22905F	PAPAMMA	71	2	2	1	2	1	1	1	2	2	1	E Coli	2	1	ESBL E.Col	1	1	1	1
185	227982F	BALAKRISHNA NAID	50	1	2	2	2	1	1	1	2	1	1	ESBL E.Col	1	2	No growth	1	1	1	2
186	231494F	CHAYA BHATTACHA	50	2	2	1	3	3	1	1	2	1	1	ESBL E.Col	1	1	ESBL E.Col	1	1	2	1

Condition	Prev	Date of previous	NcWhere	N9cTrea	N9cOD	NdTrea	durati	NName	Ndurat	Nd3f	Nd3du	NdDiagn	NdIfyesa	NdbInstr	NdcCathet	N9dcomp	currenta	N0aDysuri	N0aFeve	N0aFever	N0aChill	N0aChil	N0aBa	N0aBack	N0aLUT	N0aLU
4	2		None														1	10	1	10	1	10	1	10	2	
4	2		None														1	4	1	7	2	0	1	4	1	4
0	2		None														1	2	1	7	1	7	2		1	3
2	2		None														2	0	1	3	1	3	2	0	2	0
0	1	01-09-2008	CMC	1	1	Cephali	14					2					1	1	1	1	1	1	1	1	2	0
2	2		None														1	3	1	3	1	3	1	3	1	3
0	2		None														2		1	3	1	3	2		2	
0	2		None														2	0	2	0	2	0	2	0	2	0
4	2		None														1	5	1	5	1	5	1	5	2	
1	2		None														1	2	1	2	2	0	2	0	1	2
2	1	01-01-2010	Elsewhere	1	2							2					1	60	1	60	1	60	2	0	1	60
1	2		None														1	10	1	10	1	10	2	0	2	0
2	2		None														2		1	450	2	0	2	0	2	0
3	1	01-06-2008	CMC	1	2							2			1		1	5	1	5	1	5	2	0	1	5
3	2		None														1	2	1	2	1	2	2	0	1	2
2	2		None														1	5	1	5	1	5	1	5	2	0
1	1	01-01-2010	CMC	1	2							1	1	1	1	2	1	3	1	7	1	7	1	7	1	6
2	2		None														2		1	4	1	4	2		2	
2	2		None														1	20	1	20	2		1	20	1	20
0	1	01-12-2008	Elsewhere	2	2							2			1		1	5	1	3	1	3	1	5	2	
3	1	31-01-2008	CMC	2	1							2					2		1	4	1	4	2		2	
2	2		None														1	7	1	7	1	7	1	7	1	7
2	2		None														1	5	1	5	1	5	1	5	1	5
2	1	08-02-2012	CMC	2	1							2					2		2		2		2		2	
0	1	01-09-2010	CMC	1	1	AUGMI	5	ORZID	4			1	1	1	1	1	1	4	1	4	1	4	2		2	
2	1	01-01-1991	Elsewhere	1	2							2			1		2		2		2		2		1	5
2	2		None														1	7	2		2		2		2	
2	1	05-08-2010	CMC	1	1	CP/Clo	7					2					1	4	1	4	1	4	1	4	2	
3	1	06-06-2011	CMC	1	1	MEROF	14					1	1	2	1	1	1	2	1	2	1	2	1	2	2	
0	2		None														1	2	1	2	1	2	1	2	2	
2	2		None														2		1	60	1	60	2		2	
2	2		None														1	30	1	2	1	2	1	30	2	
3	2		None														2		1	5	1	5	1	5	2	
2	1	01-01-2006	CMC	1	2							1	2	2	2	2	1	7	1	7	2	0	2	0	2	0

0	2		None													2	0	1	2	1	2	2	0	2	0	
2	2		None													2	0	1	7	1	7	2	0	2	0	
4	2		None													2	0	1	3	1	3	1	3	1	90	
0	1		Elsewhere	1	1	PIPTAZ	2	DOXY	2			1	1	2	2	1	1	5	1	5	1	5	1	5	2	0
0	2		None													1	2	1	2	2	0	2	0	2	0	
0	2		None													2	0	2	0	2	0	2	0	2	0	
2	1	01-01-2010	Elsewhere	1	2							1	1	2	2	1	2	0	1	60	1	60	1	60	2	0
0	2		None													1	20	1	20	1	20	1	20	1	20	
2	2		None													1	2	1	2	1	2	2	0	2	0	
2	1	01-02-2010	CMC	1	1	PIPTAZ	2	CEBANE	14			1	1	2	2	1	1	2	1	2	1	2			1	2
2	1	01-02-2010	CMC	1	1	CP/Clo	42	PIPTAZ	3			1	1	2	1	1	2	0	1	2	2	0	2	0	2	0
2	2		None													1	2	1	2	1	2	2	0	2	0	
2	1	01-03-2008	CMC	2	1							2				2	0	1	10	1	10			2	0	
0	2		None													2		2		2		2		2		
2	1	24-04-2012	CMC	2	1							2				2		2		2		2		2		
2	1	14-04-2012	Elsewhere	1	1	Cephalexin	7					2			1		2		1	2	2		2		2	
2	2		None													1	5	1	5	1	5	1	5	2	0	
2	1	02-03-2012	Elsewhere	1	1	AMIKACIN	7	CEFTRIAXONE	7	LEVOCETASTINE	10	1	1	1	1	1	1	8	1	8	2		2		2	
2	2		None													1	3	1	3	1	3	1	3	2		
2	1	02-04-2012	CMC	1	1	ERTAPENECID	7					1	1	2	1	1	1	15	1	15	2		2		2	
0	1	01-09-2011	CMC	1	2							1	2	2	2	2	1	5	1	5	1	5	1	5	2	
1	1	01-01-1998	Elsewhere	1	2							1	1	1	1	1	1	7	1	7	1	7	2	0	2	
0	2		None													1	7	1	14	1	14	1	7	2		
4	2		None													2		1	3	1	3	2		1	180	
1	1	11-12-2011	Elsewhere	1	2							2				2		1	10	1	10	2		1	180	
2	1	01-12-2010	Elsewhere	2	2							2				2		1	90	1	90	2		2		
0	2		None													1	5	1	5	1	5	1	5	2		
0	2		None													1	10	1	10	1	10	1	8	2		
0	2		None													1	5	1	5	1	5	2		2		
2	1	01-07-2009	Elsewhere	1	1	Cephalexin	5					1	1	2	2	1	1	5	1	5	1	5	2		2	
1	1	01-10-2009	Elsewhere	2	2							2				2		1	2	1	2	2		2		
3	2		None													1	5	1	5	1	5	1	5	2		
2	1	01-03-2010	Elsewhere	2	2							2				1	7	1	7	1	7	1	7	1	7	
3	2		None													2		1	2	1	2	2		2		
3	1	01-02-2010	CMC	2	1							2				2		2		2		2		2		

0	2		None													2		1	5	1	5	1	5	2		
0	2		None													1	2	1	1	2		2		1	60	
2	1	01-05-2009	Elsewhe	1	2						1	1	2	2	1	2		2		2		1	7	2		
1	2		None													2		2		2		1	2	1	2	
1	2		None													1	2	1	2	1	2	2		2		
0	1	01-01-2010	Elsewhe	1	1	Cephali	3	LEON 50	3	ORN	3	1	2	2	2	2		1	15	1	15	2	0	2		
0	1	07-03-2007	CMC	2	1							2				1	15	1	15	2		1	15	1	15	
3	1	01-01-2010	Elsewhe	1	2							1	1	2	1	1	5	1	5	1	5	1	3	2		
2	1	15-02-2010	Elsewhe	1	2							2				2		1	10	1	10	2		2		
1	1	01-01-2004	CMC	1	1	Cephali	1					2			1	2		1	7	1	7	2		2		
3	1	01-01-2009	Elsewhe	1	2							1	1	2	1	1	1	3	1	3	1	3	2	0	2	0
2	2		None													1	3	1	3	1	3	1	3	1	3	
3	1	18-05-2009	CMC	2	1							2				1	7	1	7	1	7	2		2		
2	1	01-06-2009	Elsewhe	1	2							1		1		2	0	1	14	1	14	2	0	2	0	
2	2		None													2	0	1	2	2	0	1	2	2		
3	2		None													2		2		2		2		2		
1	2		None									2				1	5	1	5	1	5	1	5	2		
3	2		None													2		2		2		2		2		
4	1	20-03-2009	CMC	1	1	Fluoroc	120	AMIKAC	120	ATT		2				2		1	1	2		2		2		
0	2		None													1	2	1	2	1	2	2		2		
0	2		None													1	7	1	7	1	7	1	7	2		
1	1	01-12-2011	Elsewhe	1	2							1	1	1	1	1	2		1	4	1	4	1	4	2	0
3	1	01-11-2011	Elsewhe	1	2							2			1	2		1	30	1	30	2		2		
2	1	01-12-2011	Elsewhe	1	2							2			1	2		1	5	2		2		2		
4	1	09-01-2012	CMC	1	1	CP/Clo	3	AZITHRO	3			2			2	2		1	5	1	5	2		2		
0	2		None													1	1	1	8	1	8	2	0	2	0	
0	2		None													1	4	1	4	1	4	1	4	2		
0	2		None													1	7	1	2	1	2	1	7	2		
1	2		None													1	3	1	3	1	3	2	0	1	2	
2	2		None													2		1	2	1	2	2		2		
1	1	01-07-2009	Elsewhe	1	2							1	1	1	1	1	3	1	3	1	3	1	2	1	2	
2	1	01-04-2009	CMC	1	1	Fluoroc	7	CEPHAL	7			2			1	1	3	1	3	1	3	2		2		
1	2		None													1	3	1	7	1	7	2	0	1	7	
4	2		None													1	3	1	3	1	3	2		1	3	
2	2		None													1	2	2	0	2	0	2	0	2		

4	2		None													1	3	1	3	1	3	2	0	2	
2	2		None													1	8	1	8	1	8	2	0	2	
2	1	01-04-2009	CMC	2	2						2					2	0	1	2	1	2	2		2	
1	2		None													2		1	1	1	1	2		1	180
2	2		None													2		1	14	2		2		1	60
1	1	01-01-2007	Elsewhe	1	2						2		1	1		2		1	2	2		2		2	
2	2		None													1	2	1	2	1	2	2		2	
0	2		None													2		1	20	1	20	2		2	
1	1	01-01-2012	Elsewhe	1	2						1	1	2	2	1	1	20	1	20	1	20	1	20	2	
0	1	15-01-2012	Elsewhe	1	2						1	1	2	1	2	1	15	1	15	1	15	2		2	
0	2		None													1	8	1	2	1	2	2		1	365
0	2		None													2		1	2	1	2	2		2	
1	2		None													2		1	2	1	2	1	2	2	
2	1	25-01-2012	CMC	1	1	MAGNI	7	METRO	7	FLUC	7		1	2	2	1	2	2		2		2		2	
2	2		None													2		1	60	1	60	2		2	
0	2		None													1	7	1	7	1	7	1	5	2	
1	1	08-01-2012	Elsewhe	2	2											2		1	30	2		2		1	30
0	1	15-10-2009	Elsewhe	2	2						2					2		1	15	2		2		1	15
0	1	01-02-2007	CMC	1	1	MAGNI	14					1	1	2	1	1	2		2		2		1	8	2
3	2		None													2		1	3	1	3	1	2	2	
0	2		None													2		1	7	2		1	35	2	
1	1		Elsewhe	1	2						1	1	1	1	1	1	10	1	10	1	10	2		1	180
2	2		None													1	20	1	20	2		1	4	1	30
0	2		None													2		1	3	1	3	2		2	
0	1	01-02-2009	Elsewhe	1	1	Fluoroc	7	MAGNE	7	IMIP	2	1	1	2	1	1	1	30	1	30	1	30			
3	2		None													1	4	1	4	1	4	2		1	20
1	2		None													2		1	10	2		2		1	20
2	1	12-02-2009	Elsewhe	1	2						2					2		1	210	1	210	2		2	
2	1	15-04-2009	CMC	2	1						2			2		2		1	1	1	1	2		2	
2	2		None													2		1	45	1	45	2		2	
1	1		Elsewhe	1	2						2			1		1	5	1	5	1	5	1	5	2	
2	2		None													1	4	1	1	1	1	1	4	2	
2	2		None													1	4	1	4	1	4	2		2	
2	2		None													2		1	4	1	4	1	4	1	4
3	2		None													2		1	4	1	4	2		2	

0	2		None													1	5	1	5	1	5	1	5	2		
2	1	18-11-2011	CMC	2	2					2				1		2		1	3	1	3	2		2		
0	2		None													1	10	1	10	1	10	1	10	2		
1	1	01-05-2008	Elsewhe	1	2					2						2		1	10	1	10	1	10	2		
2	2		None													2		1	7	1	7	1	7	2		
2	1	05-05-2012	CHAD	1	1	AMIKA	7						1	1	2	2	1	2		1	7	1	7	2		2
4	2		None													2		1	4	2		2		2		
3	1	23-04-2009	CMC	2	1	ATT							2			1		2		2		2		1	3	
2	1	01-10-2008	Elsewhe	1	2					2						2		1	2	1	2	2		2		
3	2		None													2		1	180	1	180	1	180	2		
2	1	01-04-2009	Elsewhe	1	2					2						2		2		2		2		1	14	
2	1	19-05-2009	CMC	2	1					2				1		2		2		2		2		1	3	
1	2		None													1	5	1	5	1	5	2		2		
1	1		Elsewhe	1	2					1	1	1	1	1	1	1	3	1	3	1	3	2	0	1	180	
2	1		Elsewhe	1	1	AZITHR	3	IMIPEN	5				1	1	2	2	1	1	7	1	14	1	14	2		2
3	1	21-09-2010	CMC	2	1					2						1	2	1	2	1	2	2		2		
2	2		None													2		1	5	1	5	1	5	2		
0	2		None													2		1	15	1	15	2		1	15	
3	1	01-05-2012	Elsewhe	2	2					2						2		1	3	1	3	1	3	2		
1	1	01-05-2012	Elsewhe	1	2					2				1		2		2		2		2		2		
1	1	01-06-2012	Elsewhe	1	2					2				1		2		1	14	1	14	2		1	180	
0	2		None													2		1	2	1	2	1	2	2		
2	2		None													2		1	2	1	2	1	2	2		
2	2		None													2		1	4	1	4	2		2		
2	2		None													1	4	1	7	1	7	1	7	2		
2	1	02-08-2010	CMC	1	1	PIPTAZ	5	SEPMA	60				1	1	2	1	1	1	2	1	2	1	2	1	2	2
3	2		None													1	8	1	8	1	8	1	8	2		
2	2		None													2		1	3	1	3	1	3	2		
1	2		None													1	3	1	3	1	3	1	3	2		
2	1	26-04-2005	CMC	1	1	Fluoroc	14						1	1	2	1	1	2		1	2	1	2	1	2	2
2	2		None													2		2		2		1	3	1	2	
1	1	14-07-2012	CMC	2	1					2			1	1	2	2		1	14	1	14	1	14	2		
3	1	15-12-2011	CMC	2	1					2				1		1	1	1	1	1	1	1	1	2		
2	2		None													2		1	20	1	20	1	20	2		
0	2		None													2		1	3	1	3	1	3	2		

2	1	29-11-2009	CMC	1	1	MAGNI	14	AMIKAC	14			1	1	1	1	1	1	15	1	7	1	7	1	4	2	
1	1	01-10-2011	Elsewhe	1	2	NITROF	270					1	1	2	1	1	1	2	1	2	1	2	1	2	2	
2	1	27-02-2012	CMC	2	1							2					2		2		2		1	7	1	7
2	2		None														1	4	1	4	1	4	1	4	2	
1	1	14-04-2011	CMC	2	1							2			1		1	7	1	7	1	7	1	7	1	7
1	2		None														1	9	1	4	1	4	1	9	2	
1	2		None														1	2	1	2	1	2	1	2	1	2
2	1	01-05-2011	Elsewhe	1	2							1	1	2	1	1	2		1	2	1	2	2		2	
3	1	20-05-2012	Elsewhe	2	2							2			1		2		1	7	1	7	2		2	
0	2		None														1	10	1	15	1	15	2		2	
2	2		None														1	2	1	2	1	2	2		2	



N0aOth	N0aOthe	Previc	N0b1Nu	N0b2Ug	N0b3No	N0b4com	N0b5Tin	cAntibiot	N0c1antibio	N0c1du	Dose	N0c2Ant	N0c2du	Dose10	N10dSbj	N10dD	N10dH	N10dF	N10dRi	N10dRaT	N10dRaT	N10dPrY	N10dIFY	N10dPs	N10dIFYe
None		2						1	CIPROFLOX	1	500				130	80	2	104	20	1	LEFT	2	Not don	2	Not don
Change	4	2						2							60	0	1	104	44	1	Bilateral	2	Not don	2	Not don
Altered	1	2						2							90	70	1	116	34	1	RIGHT	2	Not don	2	Not don
Altered	3	2						2							120	70	2	114	28	2	No Tend	2	Not don	2	Not don
VOMIT	1	2						1	CIPROFLOX	1	500				110	70	2	112	22	1	RIGHT	2	Not don	2	Not don
VOMIT	1	2						2							110	60	2	90	22	1	RIGHT	2	Not don	2	Not don
VOMIT	1	2						2							100	70	1	112	26	1	RIGHT	2	Not don	2	Not don
VOMIT	1	2						2							110	70	2	80	24	2	No Tend	2	Not don	2	Not don
None		2						2							120	70	2	112	30	1	LEFT	2	Not don	2	Not don
Change	2	2						2							160	90	2	102	22	2	No Tend	2	Not don	2	Not don
None		2						2							140	90	2	110	24	2	No Tend	2	Not don	1	Normal
others	30	2						2							130	80	2	102	20	2	No Tend	2	Not don	2	Not don
None		2						2							120	80	2	76	16	2	No Tend	2	Not don	2	Not don
Altered	2	2						2							90	70	1	112	26	1	Bilateral	2	Not don	2	Not don
Altered	1	2						2							80	0	1	114	34	2	No Tend	2	Not don	2	Not don
None		2						2							94	70	1	101	22	1	RIGHT	2	Not don	2	Not don
None		1	3	1	2	1	2	1	CIPROFLOX	1	500				100	70	2	106	28	1	Bilateral	1	Normal	2	Not don
VOMIT	4	2						2							120	90	2	110	24	2	No Tend	2	Not don	1	Normal
None		2						1	NORFLOXACIN						120	80	2	100	20	2	No Tend	2	Not don	2	Not don
None		2						2							100	60	2	70	17	1	LEFT	2	Not don	2	Not don
Altered	1	2						2							130	80	2	100	24	2	No Tend	1	Normal	2	Not don
VOMIT	7	2						2							140	70	2	108	18	1	Bilateral	1	Normal	2	Not don
None		2						2							130	70	2	84	20	2	No Tend	2	Not don	1	Normal
None		2						2							124	80	2	88	24	2	No Tend	2	Not don	2	Not don
Altered	1	1	2	1	2	1	540	2							70	0	1	134	30	2	No Tend	2	Not don	2	Not don
Altered	5	2						2							140	90	2	80	24	2	No Tend	2	Not don	2	Not don
others	7	2						2							130	80	2	99	24	2	No Tend	2	Not don	2	Not don
None		2						2							130	80	2	90	24	1	LEFT	2	Not don	1	CYSTOC
None		1	2	1	2	1	180	2							120	80	2	110	24	1	Bilateral	2	Not don	2	Not don
VOMIT	2	2						2							118	70	2	84	20	1	RIGHT	2	Not don	2	Not don
None		1	1	2	2	2	60	1	CIPROFLOX	30	500	NITROFL	7	100	120	80	2	92	24	2	No Tend	2	Not don	1	Normal
VOMIT	2	2						2							100	60	2	90	21	1	LEFT	2	Not don	2	Not don
Altered	5	2						2							90	0	1	112	30	1	Bilateral	1	Normal	2	Not don
VOMIT	5	1	2	2	2	2	1	1	CIPROFLOX	1	500				130	70	2	102	24	2	No Tend	2	Not don	1	Normal

Change	1	2						2							100	70	1	102	20	1	Bilateral	2	Not don	2	Not don
others	7	2						2							110	70	2	98	18	2	No Tend	2	Not don	2	Not don
VOMIT	3	2						2							100	70	1	94	40	1	LEFT	1	Enlarged	2	Not don
Altered	1	2						1	PIPTAZ	3	4500	DOXY	3	100	112	70	2	104	22	1	LEFT	2	Not don	2	Not don
None	0	2						2							130	70	2	104	22	1	Bilateral	2	Not don	2	Not don
Altered	1	2						2							110	70	1	100	22	2	No Tend	1	Normal	2	Not don
None		2						2							110	70	2	118	24	1	Bilateral	2	Not don	1	Normal
Change in urine		2						2							170	100	2	101	21	1	LEFT	2	Not don	2	Not don
Dyspno	1	2						2							140	70	2	60	30	2	No Tend	2	Not don	2	Not don
VOMIT	2	1	1	1	2	1	2	2							80	60	1	98	26	2	No Tend	2	Not don	2	Not don
Altered	1	1	1	1	2	2	2	2							150	100	2	128	28	2	No Tend	2	Not don	2	Not don
None	0	2						2							110	70	2	104	24	2	No Tend	2	Not done		Not don
others	14	2						2							80	60	1	104	24	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							80	50	1	62	30	2	No Tend	2	Not don	2	Not don
Altered	3	2						2							140	80	2	102	32	2	No Tend	2	Not don	2	Not don
None		2						1	CEFTRIAXON	7	100				120	60	2	102	16	2	No Tend	2	Not don	2	Not don
None		2						1	AMOXICLAV	1	625				120	80	2	99	24	1	Bilateral	2	Not don	2	Not don
None		1	1	1	1	1	2	1	CIPROFLOX I	3	200	METROG	3	500	120	80	2	96	24	2	No Tend	2	Not don	2	Not don
None		2						2							130	60	2	108	26	1	RIGHT	2	Not don	2	Not don
None		1	2	1	2	1	1	2							100	70	2	112	18	1	LEFT	2	Not don	1	Normal
None		1	1	2	2	2	1	1	NORFLOX	1	400				110	80	2	92	26	1	RIGHT	2	Not don	2	Not don
None		1	1	1	2	1		2							90	50	1	99	24	2	No Tend	2	Not don	2	Not don
None		1	1	2	2	2	2	1	CIPROFLOX	7	500				100	70	2	104	24	2	No Tend	2	Not don	2	Not don
Altered	1	2						1							140	70	2	112	34	2	No Tend	2	Not don	2	Not don
Altered	2	2						2							140	80	2	104	30	2	No Tend	1	Enlarged	2	Not don
None		2						2							130	70	2	120	16	2	No Tend	2	Not don	2	Not don
others	2	1	1	2	2	2	2	2							86	50	1	106	24	1	LEFT	2	Not don	2	Not don
others	2	2						2							130	80	2	130	42	1	Bilateral	2	Not don	2	Not don
others	5	2						2							100	70	2	102	20	2	No Tend	2	Not don	2	Not don
None		2						1	CEPHALOSPO	5					130	80	2	92	30	1	RIGHT	2	Not don	2	Not don
Dyspno	1	2						2							130	90	2	100	20	2	No Tend	2	Not don	2	Not don
Dyspno	2	2						2							100	70	2	116	38	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							80	60	1	100	24	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							100	60	2	123	45	2	No Tend	2	Not don	2	Not don
others	1	2						2							130	70	2	88	26	2	No Tend	2	Not don	2	Not don

Altered	1	2						2							130	80	2	102	21	1	LEFT	2	Not don	2	Not don
None		2						2							130	80	2	92	16	2	No Tend	2	Not don	2	Not don
None		2						2							120	80	2	92	24	1	RIGHT	2	Not don	2	Not don
None		2						2							120	80	2	94	24	2	No Tend	2	Not don	2	Not don
None		2						2							150	10	2	98	28	2	No Tend	2	Not don	2	Not don
others	15	2						2							100	70	2	98	22	2	No Tend	2	Not don	2	Not don
None		2						2							130	60	2	114	26	2	No Tend	2	Not don	2	Not don
None		1	3	1	2	1	7	1	CEPHALOSPO	4	1500	OFLOX	7	400	130	80	2	102	16	1	RIGHT	2	Not don	2	Not don
Altered	1	2						1							130	60	2	90	26	2	No Tend	2	Not don	2	Not don
others	1	2						2							80	0	1	124	32	2	No Tend	2	Not don	2	Not don
others	1	2						1							94	0	1	108	24	2	No Tend	2	Not don	2	Not don
Altered	1	1						2							70	0	1	102	20	1	Bilateral	2	Not don	2	Not don
None		2						2							130	80	2	98	20	2	No Tend	1	Not don	2	Not don
None		2						1							130	90	2	102	28	2	No Tend	2	Not don	2	Not don
VOMIT	1	2						2							130	90	2	104	26	1	RIGHT	2	Normal	2	Not don
Altered	1	2						2							140	90	2	98	28	2	No Tend	2	Not don	2	Not don
others		1	9	2	2	2	30	1							130	90	2	102	26	1	RIGHT	2	Not don	2	Not don
others	60	2						2							160	100	2	60	16	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							110	70	2	104	22	2	No Tend	2	Not don	2	Not don
VOMIT	1	2						2							80	40	1	150	30	2	No Tend	2	Not don	2	Not don
others	7	2						2							110	80	2	110	23	1	Bilateral	1	LOADED	2	Not don
Altered	2	2						2							100	70	2	94	26	2	No Tend	2	Not don	2	Not don
None		2						2							100	70	2	116	28	2	No Tend	2	Not don	2	Not don
VOMIT	2	2						2							100	70	2	110	20	2	No Tend	2	Not don	2	Not don
Dyspno	2	2						2							130	70	2	100	24	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							100	70	2	90	22	2	No Tend	2	Not don	2	Not don
None		2						2							110	70	2	104	20	1	Bilateral	2	Not don	2	Not don
None		2						1	CIPROFLOX	4	1000				110	70	2	100	22	1	Bilateral	2	Not don	2	Not don
VOMIT	2	2						2							50	0	1	106	32	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							180	70	2	90	24	2	No Tend	2	Not don	2	Not don
None		1	4	1	2	1	90	2							110	80	2	86	22	1	Bilateral	1	Normal	2	Not don
others	3	2						2							110	70	2	132	40	2	No Tend	2	Not don	2	Not don
others	3	2						2							110	80	2	96	24	2	No Tend	1	Normal	2	Not don
Altered	2	2						2							120	70	2	102	24	2	No Tend	1	Normal	2	Not don
Altered	2	2						2							130	80	2	102	24	2	No Tend	2	Not don	2	Not don

others	1	2						2							110	70	2	86	16	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							50	0	1	150	30	2	No Tend	2	Not don	2	Not don
others	1	2						2							170	90	2	104	30	2	No Tend	2	Not don	2	Not don
Altered	2	2						2							110	70	2	102	34	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							90	60	1	104	32	2	No Tend	2	Not don	2	Not don
vomitir	5	2						2							200	100	2	108	26	2	No Tend	2	Not don	2	Not don
Dyspnc	1	2						2							110	60	1	88	20	1	RIGHT	2	Not don	2	Not don
Altered	6	2						1							150	100	2	120	34	2	No Tend	2	Not don	2	Not don
Altered	2	2						1							120	80	2	99	24	2	No Tend	2	Not don	2	Not don
vomitir	2	2						1							130	80	2	92	18	2	No Tend	2	Not don	2	Not don
Dyspnc	1	2						2							120	80	2	102	24	2	No Tend	1	Normal	2	Not don
vomitir	1	2						2							80	50	1	140	35	2	No Tend	2	Not don	2	Not don
vomitir	2	2						2							90	60	1	128	32	1	Bilateral	2	Not don	2	Not don
Dyspnc	1	1	1	2	1	2	30	2							140	90	2	100	40	2	No Tend	2	Not don	1	Normal
vomitir	60	2						2							110	70	2	112	30	2	No Tend	2	Not don	1	Normal
None		2						1							100	50	1	102	25	1	Bilateral	2	Not don	2	Not don
Change	1	1	9	2	2	2		1							130	80	2	60	22	2	No Tend	2	Not don	2	Not don
None		2						2							100	80	2	110	24	2	No Tend	2	Not don	2	Not don
None		1	1	1	2	1	90	2							120	80	2	94	22	1	RIGHT	2	Not don	2	Not don
Altered	1	2						2							130	80	2	96	22	1	Bilateral	2	Not don	2	Not don
vomitir	7	2						2							130	70	2	120	30	1	Bilateral	1	Normal	2	Not don
None		1	9	1	2	1		1							160	90	2	120	30	2	No Tend	2	Not don	2	Not don
None		2						2							110	70	2	120	28	1	LEFT	2	Not don	2	Not don
Altered	1	2						2							140	60	2	88	31	2	No Tend	1	Normal	2	Not don
None		2						1							120	80	2	88	20	2	No Tend	1	Normal	2	Not don
Altered	1	2						2							70	0	1	100	28	2	No Tend	1	Not don	2	Not don
Altered	4	2						2							130	60	2	66	20	2	No Tend	1	Normal	2	Not don
Dyspnc	1	2						2							130	80	2	102	22	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							100	60	2	90	22	2	No Tend	2	Not don	2	Not don
others	45	2						1							150	80	2	80	25	2	No Tend	1	Normal	2	Not don
None		2						2							120	80	2	99	24	2	No Tend	2	Not don	2	Not don
None		2						2							110	60	2	124	24	1	Bilateral	2	Not don	1	Normal
others	4	2						2							120	80	2	99	24	2	No Tend	2	Not don	2	Not don
vomitir	1	2						2							100	80	2	78	24	2	No Tend	2	Not don	1	Normal
Altered	4	2						2							120	80	2	99	24	2	No Tend	1	Normal	2	Not don

Change	2	2						2							120	80	2	100	20	1	Bilateral	2	Not don	2	Not don
Change	3	2						2							100	70	2	110	24	2	No Tend	2	Not don	1	Normal
None		2						2							120	70	2	102	24	1	RIGHT	2	Not don	2	Not don
None		2						2							110	80	2	88	20	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							140	70	2	11	28	1	Bilateral	2	Not don	2	Not don
vomitir	7	2						1	AMIKAICN	7	750				110	60	2	110	20	1	RIGHT	2	Not don	2	Not don
Altered	1	2						2							120	80	2	80	24	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							90	50	1	90	26	2	No Tend	2	Not don	2	Not don
None		2						2							160	110	2	110	24	2	No Tend	2	Not don	2	Not don
others	180	2						2							130	70	2	72	20	2	No Tend	2	Not don	2	Not don
Altered	14	2						2							140	90	2	110	22	2	No Tend	2	Not don	2	Not don
vomitir	3	2						2							90	60	1	62	30	2	No Tend	2	Not don	2	Not don
None		2						2							150	100	2	90	20	2	No Tend	1	Enlarged	2	Not don
Dyspnc	2	2						2							80	0	1	121	36	2	No Tend	1	Enlarged	2	Not don
None		2						1							160	80	2	100	20	2	No Tend	2	Not don	1	Normal
Dyspnc	10	2						2							130	80	2	80	20	2	No Tend	2	Not don	2	Not don
Change	1	2						2							100	50	1	110	20	1	Bilateral	1	Normal	1	Normal
None		2						2							120	90	2	100	20	2	No Tend	1	Normal	2	Not don
others	1	2						2							90	0	1	111	30	2	No Tend	2	Not don	2	Not don
Altered	1	2						2							90	0	1	111	25	2	No Tend	2	Not don	2	Not don
Change	14	2						1							140	80	2	102	24	2	No Tend	1	Enlarged	2	Not don
None		2						2							90	0	1	113	20	2	No Tend	1	Normal	2	Not don
Change	2	2						2							130	90	2	92	18	1	Bilateral	2	Not don	1	Normal
Altered	1	2						2							130	80	2	112	20	2	No Tend	2	Not don	1	Normal
None		2						1	NORFLOX	5	400				110	80	2	100	20	1	Bilateral	2	Not don	1	Normal
others	2	1	3	1	2	1	730	2							100	70	2	86	18	2	No Tend	2	Not don	1	Normal
vomitir	2	2						2							120	70	2	92	24	2	No Tend	2	Not don	2	Not don
Altered	3	2						2							80	0	1	120	26	1	Bilateral	2	Not don	1	Normal
None		2						2							140	90	2	109	22	1	RIGHT	2	Not don	1	Normal
None		1	1	1	2	1	999	2							130	80	2	82	14	1	RIGHT	2	Not don	2	Not don
vomitir	1	2						2							110	70	2	120	22	1	LEFT	2	Not don	1	Normal
None		2						2							110	80	2	88	18	1	LEFT	1	Normal	2	Not don
vomitir	1	1	1	2	2	2	270	2							110	80	2	96	24	1	LEFT	2	Not don	2	Not don
vomitir	4	2						2							120	80	2	100	24	2	No Tend	2	Not don	2	Not don
vomitir	1	2						2							110	60	2	98	28	1	LEFT	2	Not don	2	Not don

None		1	2	1	2	1	450	2							110	70	2	99	20	1	RIGHT	2	Not don	1	Normal
Change	1	1	1	1	2	1	270	1	NITROFURAL	270	100				130	80	2	112	20	1	Bilateral	2	Not don	2	Not don
vomitir	1	2						2							110	70	2	88	19	1	Bilateral	2	Not don	1	Normal
None		2						2							110	80	2	88	24	1	RIGHT	2	Not don	2	Not don
Altered	2	2						2							110	80	2	108	24	2	No Tend	1	Normal	2	Not don
Change	9	2						2							110	80	2	90	20	2	No Tend	1	Normal	2	Not don
Change	1	2						2							140	80	2	92	20	2	No Tend	1	Enlarged	2	Not don
others	1	1	2	1	2	1	365	2							130	80	2	99	20	2	No Tend	1	Normal	1	Normal
Altered	5	2						2							110	70	2	102	20	2	No Tend	1	Normal	1	Normal
vomitir	1	2						2							140	90	2	18	16	2	No Tend	1	Normal	2	Not don
None	1	2						2							110	70	2	112	20	2	No Tend	2	Not don	2	Not don

N10d2c	N10d2IfCatheter	N10d2Indication	N10d2Duration	N10d2Frequency	N0e1Total	N032D	N10e2	N0e2Di	N10e3	WBC	N0e3R	N0e3Leu	N0e3Nitr	N0e4USC	N0e5U	N0e6Sensitivity	N0e6CFU/ml	N10e6Ser	Name of the anti	N0e6Se
2	Not catheterised				12900	8	0	84	1	99.99	2.03	0	0	1	1					
1	1	OLIGURIA	2	2	10000	4	0	90	1	99.99	1.02	2	2	6	1					
2	Not catheterised				6400	7	2	88	1	15.2	8.1	1	1	2	1			2		
1	1	ALTERED SENS	2	2	9900	4	0	92	1	99.99	10.12	0	0	1	2					
2	Not catheterised				13000	4	0	80	1	99.99	1.02	3	1	2	1	ESBL E.COLI	13000	2		
1	2	SHOCK	3	2	17400	2	0	91	1	99.99	2.03	0	0	1	1	ESBL E.COLI	16000	2		
2	Not catheterised				15000	4	0	89	1	99.99	8.1	2	0	4	1					
1	2	OLIGURIA	2	2	15900	16	3	73	1	99.99	6.08	1	0	1	1	KLEBSIELLA	400	2		
2	Not catheterised				7200	23	0	66	1	10.15	8.1	1	1	3	1	E coli	1000000	1	AMOXICLAV	1
2	Not catheterised				8400	11	0	80	1	8.1	4.06	2	0	1	1	PSEUDOMONA	1000000	1	AZTREONAM	2
1	1	RENAL FAILURE	4	2	1800	30	3	15	1	1.02	99.99	0	0	1	2			2		
2	Not catheterised				16200	13	2	82	1	8.1	6.08	1	0	2	1			2		
2	Not catheterised				4400	21	0	59	2					1	1	ESBL ECOLI	1000000	1	AMOXICLAV	2
1	1	ALTERED SENS	3	2	6000	8	1	88	1	99.99	30.35	3	0	1	1					
1	1	SHOCK	7	2	11500	1	16	72	1	20.25	2.04	1	0	0	2	ESBL E.COLI	1000000	2		
2	Not catheterised				13300	1	0	99	1	20.25	8.1	1	0	2	1	ESBL E.COLI	100000	2		
1	2	ACUTE RETENT	8	2	12400	14	0	79	1	99.99	10.12	1	0	1	1					
2	Not catheterised				23400	8	2	86	1	99.99	15.2	1	0	0	1	ESBL E.COLI	48000	1	AMOXICLAV	2
2	Not catheterised				10200	27	5	59	1	99.99	6.08	1	0	1	1	E coli	55000	1	AMOXICLAV	1
2	Not catheterised				11500	10		76	1	25.3	4.06	1	0	2	1	E coli	2000	1	AMIKACIN	1
2	Not catheterised				9600	13	0	72	1	2.03	6.08	0	0	0	1	ESBL E.COLI	1400	2		
2	Not catheterised				21000	4	0	87	1	99.99	10.15	3	1	2	1	ESBL E.COLI	40000	1	AMOXICLAV	2
2	Not catheterised				16000	7	0	84	1	25.3	4.07	2	0	1	1	ESBL E.COLI	85000	1	AMOXICLAV	2
2	Not catheterised				19200	8	0	86	1	99.99	10.15	0	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
1	1	SHOCK	4	2	15300	8	0	89	1	99.99	4.06	3	0	3		NOT DONE				
1	1	UNRESPONSIVE	3	2	17200	12	0	80	1	20.25	4.06	3	0	0		NOT DONE				
2	Not catheterised				12800	22	0	69	1	20.25	1.02	3	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				13900	7	0	83	1	20.25	6.08	3	0	2	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				19300	6	0	89	1	99.99	30.35	0	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	1
2	Not catheterised				16900	7	0	83	1	6.08	2.04	1	1	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				8500	22	0	68	1	20.25	2.04	1	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	1
2	Not catheterised				21400	8	0	86	1	8.1	6.08	2	0	5	1	YEAST	100000	2		
1	1	SHOCK	17	2	14100	24	0	69	1	99.99	1.01	3	1	3	1	E coli	100000	1	AMOXICLAV	2
2	Not catheterised				11000	19	0	74	1	12.15	2.04	0	0	1	1	E coli	5000	1	AMOXICLAV	2

1	2	SHOCK	2	2	9300	3	8	89	1	1.01	1.01	0	0	1	1			2		
1	1	OLIGURIA	3	2	7900	25	1	59	1	20.25	3.05	1	0	1	1	MIXTURE OF ORGANISM		2		
2	Not catheterised				12400	2	3	88	1	99.99	15.2	2	0	3	1	ESBL E.COLI	100000	1	AMOXICLAV	1
2	Not catheterised				12700	3	0	94	1	20.25	4.06	0	0	3	1			2		
2	Not catheterised				17000	5	0	90	1	20.25	8.1	3	0	2	1	ESBL E.COLI	100000	1	AMOXICLAV	2
1	1	ALTERED SENS	2	2	11400	7	0	87	1	99.99	4.06	0	0	1	1	PSEUDOMONA	100000	1	AZTREONAM	2
1	1	OUTPUT MONI	3	2	12600	18	0	76	1	20.22	2.04	0	0	6	2	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				25600	4	0	90	1	25.3	6.08	2	0	1	1	ESBL E.COLI	13500	1	AMOXICLAV	2
2	Not catheterised				14200	4	0	95	1	4.05	6.08	0	0	1	2	E coli	500	1	AMOXICLAV	2
1	1	SHOCK	4	2	19100	17	0	82	1	99.99	99.99	4	0	1	1	ESBL E COLI	0	2		
1	2	ALTERED SENS	1	2	12000	30	0	63	1	10.12	2.04	1	0	5	1			2		
2	Not catheterised				17000	12		83	1	99.99	1.02	3	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				16300	6	0	87	1	25.3	3.05	1	1	3	1	E coli	100000	1	AMOXICLAV	2
1	1	SHOCK	1	2	6700	18	4	77	1	20.25	4.06	1	0	1	2	ESBL E.COLI	100000	1	AMOXICLAV	2
1	2	ALTERED SENS	7	2	9800	21	0	70	1	10.12	2.04	0	0	2	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				15300	27	0	65	1	99.99	1.02	2	0	1	1	ECOLI1/ESBL 2	100000	1	AMOXICLAV	2
2	Not catheterised				9600	10	0	84	1	20.4	14.4	2	0	2	1					
2	Not catheterised				10700	12	0	74	1	6.08	30.35	0	0	1	1					
1	1	ALTERED SENS	1	2	17900	6	0	88	1	99.99	10.15	3	0	3	1					
1	1	OLIGURIA	4	2	30400	3	0	93	1	99.99	6.08	3	0	4	1	ENTEROCOCCI	34000	1	AMPICILLIN	2
2	Not catheterised				17000	7	0	88	1	10.12	2.04	1	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
1	1	OLIGURIA	5	2	19900	4	0	95	1	99.99	6.08	2	0	2	1	ESBL E.COLI	100000	1	AMOXICLAV	1
2	Not catheterised				10900	8	0	86	1	99.99	99.99	2	0	1	1	ESBL E.COLI	3000	1	AMOXICLAV	2
1	1	OLIGURIA	2	1	12500	5	0	90	1	45.5	12.15	3	1	3	2	E coli	100000	1	AMOXICLAV	2
2	Not catheterised				13000	6	0	80	1	8.1	4.06	0	0	1	1	E coli	100000	1	AMOXICLAV	2
2	Not catheterised				3700	29	0	52	1	2.04	2.04	1	0	1	1	E coli	100000	1	AMOXICLAV	1
2	Not catheterised				16400	12	0	78	1	20.25	10.12	2	0	2	1	E coli	48000	1	AMOXICLAV	2
1	1	ALTERED SENS	1	2	25900	7	6	85	1	20.22	10.12	1	1	2	1	E coli	100000	1	AMOCICLAV	2
2	Not catheterised				14800	12	0	84	1	30.35	1.02	0	0	1	1	E coli				
2	Not catheterised				8800	29	0	60	1	99.99	15.2	2	1	2	1	E coli	0.01	1	AMOXICLAV	1
2	Not catheterised				1890	6	0	91	1	2.04	1.02	0	0	1	1	ENTEROCOCCI	100000	1	AMPICILLIN	1
1	2	OUTPUT MONI	2	2	15200	7	0	92	1	20.25	8.1	2	0	2	1	ESBL E.COLI	6000	1	AMOXICLAV	2
1	1	SHOCK	21	2	27600	10	4	80	1	99.99	99.99	1	0	1	2	CANDIDA	100000	2		
1	1	ALTERED SENS	2	2	9500	10	0	89	1	15.2	5.06	2	0	0	2	NO GROWTH				
1	2	UTI	6	2	21600	9	0	87	2					1	2	PSEUDOMONA	100000	1	AZTREONAM	1



1	1	NO RESAON	3	1	6400	11	0	85	1	99.99	4.06	3	1	2	2	ESBL E.COLI	17000	1	AMOXICLAV	2
2	Not catheterised				17400	9	0	84	1	45.5	12.15	3	1	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				5000	24	0	62	1	10.15	1.02	0	0	2	1	NO GROWTH				
2	Not catheterised				9400	5	0	94	1	20.25	99.99	0	0	1	1	E coli	2000	1	AMOXICLAV	1
1	2	IMMOBILISATIO	7	2	15000	17	0	75	2					0	2	GNB/CITROBAC	100000	1	AMOXICLAV	2
2	Not catheterised				11400	21	0	74	1	40.45	20.25	0	0	1	1	ESBL E.COLI	16200	1	AMOXICLAV	2
2	Not catheterised				16300	14	0	81	1	1.02	10.12	0	1	2	1	YEAST	3500	2		
2	Not catheterised				9200	9	0	80	1	10.12	1.02	0	0	2	1			2		
1	2	ALTERED SENS	7	2	13600	23	0	59	1	99.99	15.2	0	0	1	2	ESBL E.COLI	0	1	AMOXICLAV	2
1	1	SHOCK	7	2	9600	6	19	72	1	1.02	2.04	0	0	1	2					
1	3	OLIGURIA,SHO	3	2	6500	3	0	95	1	1.01	18.2	0	0	0	2	YEAST	11600	2		
1	1	SHOCK	10	2	2300	7	1	80	1	99.99	8.1	2	0	3	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				18900	3	0	97	1	20.25	8.1	2	1	2	1	ESBL E.COLI	400	2		
1	1	IMMOBILISATIO	14	2	11300	9	0	88	1	3.05	8.1	3	0	1	2	KLEBSIELLA	100000	1	AMOXICLAV	2
1	1	UTI	3	1	25500	4	3	90	1	2.03	99.99	2	0	1	2	E coli	800	2		
1	1	IMMOBILISATIO	60	2	9900	21	0	70	1	15.2	20.25	1	1	0	2	KLEBSIELLA	100000	1	AMOXICLAV	2
2	Not catheterised				12800	25	0	63	1	2.04	1.02	0	1	1	1	ENTEROCOCCI	30000	1	AMPICILLIN	1
2	Not catheterised				13600	1	81	14	1	99.99	15.18	1	1	0	1	ESBL E.COLI	100000	1	AMOXICLAV	2
1	2	NOT KNOWN	5	2	6100	6	0	84	1	99.99	0	0	0	0	1	CANDIDA	100000	2		
2	Not catheterised				13600	5	8	86	1	99.99	4.06	2	1	0	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				14400	7	0	87	1	25.3	2.03	2	0	2	1	ESBL E.COLI	2400	1	AMOXICLAV	2
1	2	SPC	999	2	18400	2	0	97	1	99.99	99.99	2	0	4	3	YEAST	100000	2		
1	3	IMMOBILISATIO	30	2	7700	11	0	79	1	20.25	15.2	2	0	1	2	ENTEROCOCCI	4000	1	AMPICILLIN	2
2	Not catheterised				10400	4	0	91	1	6.08	1.02	0	0	1	1	E coli	100000	1	AMOXICLAV	1
1	1	IMMOBILISATIO	4	2	27600	5	0	92	1	99.99	1.02	3	0	0	1	E coli	100000	2		
2	Not catheterised				11500	6	0	89	1	50.55	6.08	0	0	2	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				8700	7	0	87	1	99.99	10.2	3	0	2	1	ESBL E.COLI	100000	1	AMOXICLAV	1
2	Not catheterised				11400	9	0	82	1	20.25	2.04	2	1	2	1	ESBL E.COLI	100000	2		
1	1	SHOCK	3	2	22300	8	11	74	1	35.4	2.04	2	0	1	1					
1	1	ALTERED SENS	2	2	17300	8	0	81	1	99.99	2.03	2	0	0	2	E coli	21000	1	AMOXICLAV	2
2	Not catheterised				15500	12	0	84	1	25.3	4.06	0	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	1
2	Not catheterised				16300	6	0	89	1	99.99	1.02	0	0	3	1	ENTEROCOCCI	6500	1	AMPICILLIN	1
2	Not catheterised				11600	4	0	84	1	20.25	8.1	2	0	1	1	YEAST	28000	2		
1	2	SHOCK	2	2	18900	6	0	88	1	35.4	10.15	0	0	1	1	PSEUDOMONA	11000	1	AMOXICLAV	2
2	Not catheterised				16100	24	0	70	1	10.12	1.02	3	0	0	1			2		

1	2	ALTERED SENS	3	2	12600	27	0	50	1	10.12	2.04	0	1	1	2			2		
1	3	SHOCK	1	2	6000	24	1	71	2					0	2			2		
1	2	SHOCK	3	2	400	2	0	3	1	2.04	6.08	0	0	1	2	E coli	100000	1	AMOXICLAV	2
1	2	ACUTE RETENT	3	2	13800	4	0	88	1	99.99	99.99	0	0	1	1	E coli	1000	1	AMOXICLAV	2
1	1	ACUTE RENAL F	14	2	18600	4	2	88	1	1.02	99.99	0	0	2	2	CANDIDA TROP	100000	2		
1	1	CHANGE OF CA	999	2	10700	11	0	73	1	99.99	99.99	3	1	1	2	KLEBSIELLA	100000	1	AMOXICLAV	2
1	1	SHOCK	5	2	1400	20	0	80	1	99.99	10.12	3	1	5	1	E coli	1200	1	AMOXICLAV	2
1	1	ALTERED SENS	2	2	14500	7	0	87	1	99.99	18.2	1	0	0	1	ESBL E.COLI	100000	1	AMOXICLAV	2
1	2	SHOCK	7	2	12700	9	0	86	1	99.99	18.2	3	0	3	1	ESBL E.COLI	4200	1	AMOXICLAV	2
2	Not catheterised				11400	6	0	92	1	99.99	5.06	1	0	1	1	YEAST	2800	2		
2	Not catheterised				22600	16	0	81	1	99.99	99.99	0	0	3						
1	1	SHOCK , SEIZUR	3	2	3000	12	0	87	1	1.02	0	0	0	1						
1	1	SHOCK	1	2	18900	8	0	86	2					4						
1	1	IMMOBILISATIO	7	2	24700	13	0	79	1	99.99	1.02	0	0	0	1					
2	Not catheterised				11300	19	0	68	1	3.05	1.02	0	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	1
1	1	SHOCK	4	2	11700	10	0	82	1	25.3	18.2	2	0	2	3					
1	1	RETENTION	5	2	10100	19	0	76	1	99.99	2.03	3	0	4	1	CANDIDA TROP	100000	2		
2	Not catheterised				15400	9	0	81	1	99.99	8.1	1	0	2	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				28000	4	7	88	1	99.99	99.99	1	1	3	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				23800	9	3	88	1	99.99	99.99	2	1	2	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				8900	7	0	88	1	20.25	99.99	1	1	5	1	E coli	1500	2		
1	1	ACUTE RETENT	14	2	17000	17	0	76	1	99.99	4.06	3	1	1	2	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				4000	14	0	76	1	14.16	8.1	1	1	1	1	E coli	100000	1	MAGNEX	1
2	Not catheterised				13600	2	0	86	1	30.35	1.02	1	1	2	1	E coli	600	2		
2	Not catheterised				13300	16	0	70	1	99.99	2.04	0	0	5	3	ESBL E.COLI	100000	1	AMOXICLAV	2
1	1	SHOCK, ALTERE	17	2	25800	2	0	93	1	30.35	99.99	3	0	1	1	E coli	2800	1	AMIKACIN	1
1	1	ALTERED SENS	1	2	13800	10	0	78	1	1.02	4.06	0	0	1	1	E coli	100000	1	AMOXICLAV	2
1	2	PULMONARY EI	18	2	18300	20	0	72	1	99.99	20.25	3	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
1	1	ALTERED SENS	7	2	7900	37	17	44	1	1.02	1.02	0	0	0	1	ENTEROCOCCI	100000	1	NITROFURANT	1
2	Not catheterised				8900	9	0	83	1	30.35	10.12	3	0	2	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				19700	10	0	82	1	25.3	6.08	3	1	1	1	ESBL ECOLI	600	1	AMOXICLAV	2
2	Not catheterised				21300	6	0	86	1	99.99	99.99	3	1	1	1	CONTAMINANTS				
2	Not catheterised				13300	13	0	81	1	99.99	6.08	2	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				18000	10	0	79	1	99.99	12.14	3	0	1	1	E coli	100000	1	AMOXICLAV	2
2	Not catheterised				9100	26	0	61	2					0	1	E coli	100000	2		

2	Not catheterised				19600	7	0	87	1	35.4	3.05	3	1	2	1	E coli	100000	2		
1	1	OLIGURIA	4	2	17900	5	0	84	1	99.99	6.08	2	0	1	1	E coli	100000	1	AMOXICLAV	1
2	Not catheterised				15700	13	0	74	1	25.3	12.14	1	1	2		NOT DONE				
1	1	CHANGE OF CA	12	2	7000	34	0	46	1	99.99	2.04	2	1	1	2	E coli	100000	1	AMOXICLAV	2
2	Not catheterised				10800	11	0	79	1	99.99	1.02	3	0	2	1	KLEBSIELLA	800	2		
2	Not catheterised				16800	10	0	84	1	25.3	0	2	0	5	1	KLEBSIELLA	3000	1	AMOXICLAV	1
2	Not catheterised				22100	4	0	91	1	14	0	1	0	4	1	CONTAMINANTS				
1	1	ANURIC, SHOCK	4	2	5400	20	0	66	1	18.2	3.05	1	0	1	2	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				5400	31	10	52	1	5.1	1.02	1	1	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				10100	6	0	88	1	99.99	6.08	2	0	1	1	E coli	100000	1	AMOXICLAV	1
1	1	OLIGURIA, ALT	5	2	9700	16	0	76	1	35.4	8.1	2	0	3	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				12100	9	0	85	1	99.99	6.08	1	0	1	1	KLEBSIELLA	100000	1	AMOXICLAV	1
2	Not catheterised				19400	7	0	88	1	35.4	35.4	1	0	1	1					
2	Not catheterised				43900	4	0	95	1	99.99	99.99	3	0	3	2	PSEUDOMONA	100000	1	AMIKACIN	1
2	Not catheterised				14500	12	0	76	1	35.4	1.02	2	0	2	1					
2	Not catheterised				18100	6	1	89	1	20.25	2.04	1	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
1	1	SHOCK	13	2	20900	20	4	73	1	99.99	16.18	2	0	2	1	YEAST	6000	2		
2	Not catheterised				18400	9	0	80	1	99.99	10.15	3	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
1	2	SHOCK	3	2	11600	9	12	71	1	99.99	99.99	3	0	0	1	ENTEROCOCCI/	100000	1	AMOXICLAV	2
1	2	SHOCK	3	2	16100	23	0	71	1	99.99	15.2	1	1	1	1	KLEBSIELLA/E C	100000	1	AMOXICLAV	2
1	1	CHANGE OF CA	14	2	13500	8	0	86	1	18.2	6.08	2	1	2	2	KLEBSIELLA/ESBL	100000	1	MAGNEX	1
2	Not catheterised				16900	7	0	85	1	99.99	99.99	1	1	3	1	KLEBSIELLA	100000	1	AMOXICLAV	2
1	1	OLIGURIA, RENAL	7	2	32800	3	0	91	1	99.99	10.12	3	0	1	1					
1	1	CVA	19	2	17300	3	2	91	1	6.08	2.03	2	0	2	3	ESBL E.COLI	100000	1	AMOXICLAV	1
2	Not catheterised				9000	30	0	62	1	25.3	1.02	1	0	1	3	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				12700	24	0	60	1	10.15	2.03	2	1	1	3	ESBL E.COLI	100000	1	AMOXICLAV	1
2	Not catheterised				21000	13	3	74	1	12.15	1.02	2	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
1	1	SHOCK	2	2	7300	10	0	86	1	20.25	10.12	3	1	2	1					
1	1	NOT KNOWN	1	2	18800	6	0	90	1	99.99	15.2	3	1	3	1					
2	Not catheterised				11100	6	0	85	1	1.02	1.02	0	1	1	1					
1	1	OLIGURIA	3	2	12300	2	0	95	1	99.99	2.04	3	1	3	1	E COLI	100000	1	AMOXICLAV	1
2	Not catheterised				22200	13	0	77	1	6.08	20.25	0	0	5	1	KLEBSIELLA	20000	1	AMIKACIN	2
2	Not catheterised				18500	5	0	88	1	1.02	1.02	0	0	3	3	ESBL E.COLI	100000	1	AMOXICLAV	1
2	Not catheterised				11600	5	2	89	1	99.99	8.1	3	0	1	1	ESBL E.COLI	100000	1	AMOXICLAV	2
1	1	SHOCK	2	2	40800	3	0	94	1	99.99	8.1	3	1	3		NOT DONE				

2	Not catheterised				15000	19	0	62	1	20.25	2.03	3	1	1	1					
2	Not catheterised				12800	22	0	67	1	1.01	6.08	0	0	6	1					
2	Not catheterised				9000	16	0	71	1	99.99	1.02	3	0	3	1	ESBL E.COLI	100000	1	AMOXICLAV	2
2	Not catheterised				17400	15	0	74	1	99.99	6.08	1	0	0	1	KLEBSIELLA/E C	100000	1	AMOXICLAV	1
1	1	CHANGE OF CA	270	2	5900	15	1	74	1	20.22	2.03	2	1	1	2	ESBL E.COLI	38000	1	AMOXICLAV	2
2	Not catheterised				11600	19	0	69	1	99.99	6.08	3	1	1	1	E COLI	100000	1	AMOXICLAV	1
1	1	OLGURIA	12	2	18800	2	2	90	1	10.15	99.99	3	1	1	1	ENTEROCOCCI/	100000	1	AMOXICLAV	1
2	Not catheterised				2900	12	0	68	1	99.99	6.08	3	0	1	1					
1	1	CHANGE OF CA	38	2	11700	7	0	82	1	99.99	8.1	3	1	0	2	ENTEROCOCI/E	100000	2		
2	Not catheterised				13100	8	0	83	1	20.25	6.08	1	1	1	1	ESBL E.COLI	100000	1	AMOXICLAV	1
2	Not catheterised				13200	6	0	92	1	25.3	10.12	2	1	1	1	ENTEROCOCCI/	100000	1	AMOXICLAV	2

N0e62Nameoft	N0e62S	N0e63Nameoft	N0e63S	N0e64Nameoft	N0e64Se	N0e65Nameoft	N0e65Ser	N0e66Nameoft	N0e66Ser	N0e67Nameoft	N0e67Se	N10e68Name	N10e68S	N10e7Gr	N10e7Organisr	N0e71Nameoft	N0e71Se
														1	ESBL E.COLI	TICARCLAV	2
														2			
														1	E COLI		
														2			
														1	ESBL E.COLI	TICARCLAV	2
														1	ESBL E.COLI	TICARCLAV	2
														1	ESBL E.COLI	TICARCLAV	2
														2			
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	NITROFURANTO	1	PIPTAZ	1	CEFPODOXIME	1	CIP	2	2			
AMIKACIN	2	MAGNEX	2	CARBOPENEM	2	NETILMICIN	2	CEFTAZIDIME	2	COLISTIN	1	CIP	2	2			
														2			
														2			
AMIKACIN	2	MAGNEX	2	CARBOPENEM	1	NETILMICIN	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
														2			
														1	ESBL E.COLI	TICARCLAV	2
														1	ESBL E.COLI	TICARCLAV	2
														2			
NALIDIXIC ACID	2	NITROFURANTO	1	CO TRIMOX	2	GENTAMICIN	2	CEFPODOXIME	2					1	ESBL E.COLI	TICARCLAV	2
NITROFURANTO	1	NALIDIXIC ACID	2	COTRIMOX	2	GENTAMICIN	2	CEFPODOXIME	1					2			
AMOXICLAV	1	MAGNEX	1	NITROFURANTO	1	CARBOPENEM	1	PIPTAZ	1	CEFPODOXIME	1	CIP	1	2			
														2			
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	NITROFURANTO	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	1	ESBL E.COLI	MAGNEX	1
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2	CIPROFLOX	2					2			
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	1	CEFPODOXIME	2	CIPROFLOX	1					2			
														1	E COLI	MAGNEX	1
														2			
AMIKACIN	1	MAGNEX	1	NITROFURANTO	1	CARBOPENEM	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
COTRIMOX	2	NITROFURANTO	1	CEFPODOXIME	2	CIPROFLOX	2							1	ESBL ECOLI	MAGNEX	1
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2	CIPROFLOX	2					2			
COTRIMOX	1	NITROFURANTO	1	GENTAMICIN	1	CEFPODOXIME	1	CIPROFLOX	1					2			
NITROFURANTO	1	COTRIMOX	2	GENTAMICIN	1	CEFPODOXIME	2	CIPROFLOX	2					2			
														2			
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	PIPTAZ	1	GENTAMICIN	1	CEFPODOXIME	1	CIP	2	2			
COTRIMOX	1	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	1							2			

														1	E COLI	TICARCLAV	1
														2			
COTRIMOX	2	NITROFUNATO	1	GENTAMICIN	1	CEFPODOXIME	2	CIPROFLOX	1					1	ESBL E.COLI	TICARCLAV	1
														2			
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	NETILMICIN	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
AMIKACIN	2	AMOXICLAV	2	NITROFURANTO	2	COTRIMOX	2	CEFTAZIDIME	1	CEFPODOX	2	CIP	2	2			
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	NETILMICIN	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
COTRIMOX	1	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2	CIPROFLOX	2					2			
COTRIMOX	2	NITROFURANTO	2	GENTAMICIN	2	CEFPODOXIME	1	CIPROFLOX	2					1	ESBL E.COLI	TICARCLAV	2
														1	ESBL E.COLI	TICARCLAV	2
														2			
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	1	CEFPODOXIME	2	CIPROFLOX	2					1	ESBL E.COLI	TICARCLAV	2
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	NITROFURANTO	1	PIPTAZ	1	CEFPODOXIME	1	CIP	2	1	E COLI	TICARCLAV	1
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2							1	ESBL ECOLI	TICARCLAV	2
COTRIMOX	2	NITROFURANTO	1	CARBOPENEM	1	NETILMICIN	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
AMIKACIN	1	MAGNEX	2	CARBOPENEM	1	NITROFURANTO	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
														2			
														2			
														1	ESBL E.COLI	TICARCLAV	1
GENTAMICIN	2	NITROFURANTO	1											2			
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	1	CEFPODOXIME	2	CIPROFLOX	2					2			
NITOFURANTO	1	COTRIMOX	2	GENTAMICIN	2	CEFPODOXIME	2	CIPROFLOX	2					2			
AMIKACIN	1	MAGNEX	2	CARBOPENEM	1		PIPTAZ	1	CEFPODOXIME	2	CIP	2	2	2			
COTIRMOX	1	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	1	CIPROFLOX	2					1	E COLI	TIGECYCLINE	2
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	COTRIMOX	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	NETILMICIN	1	PIPTAZ	1	CEFPODOXIME	2	CIP	2	2			
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	COTRIMOX	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2	CIPROFLOX	2					1	ESBL E.COLI	TICARCLAV	2
														2			
COTRIMOX	1	NITROFURANTO	1	GENTAMICIN	1	CEFPODOXIME	1							2			
GENTAMICIN	2	NITROFURANTO	1	TEICOPLANIN	1	VANCOMYCIN	1	LINEZOLID	1	CIPROFLOX	2			2			
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2	CIPROFLOX	2					1	ESBL E.COLI	TICARCLAV	2
														2			
														2			
GENTAMICIN	1	NETILMICIN	1	CEFTAZIDIME	1	COLISITIN	1	CIPROFLOX	1					2			

AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	NETILMICIN	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	1	ESBL E.COLI	TICARCLAV	2
AMIKACIN	1	MAGNEX	2	CARBOPENEM	1	NITROFURANTO	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
													2				
COTRIMOX	1	NITROFURANTO	1	GENTAMICIN	1	CEFPODOXIME	1						2				
AMIKACIN	2	MAGNEX	2	CARBOPENEM	2	NITROFURANTO	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	NITROFURANTO	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
													2				
													2				
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2	CIPROFLOX	2				2				
													2				
													2				
AMIKACIN	1	MAGNEX	2	CARBOPENEM	1	NITROFURANTO	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	1	ESBL E.COLI	AMOXICLAV	2
													1	ESBL E.COLI	TICARCLAV	2	
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	NITROFURANTO	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
													2				
AMIKACIN	2	MAGNEX	2	CARBOPENEM	1	NETILMICIN	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
GENTAMICIN	2	NITROFURANTO	1										2				
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2	NALIDIXIC ACID	2				2				
													1	KLEBSIELLA	TICARCLAV	2	
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2						2				
AMIKACIN	1	MAGNEX	2	CARBOPENEM	1	NITROFURANTO	1	PIPTAZ	2	CEFPODOXIME	2	GEN	1	2			
													1	ESBL E.COLI	COLISTIN	1	
GENTAMICIN	1	NITROFURANTO	1	LINEZOLID	1	TEICOPLANIN	1	VANCOMYCIN	1				1	ESBL E.COLI	TIGECYCLINE	1	
COTRIMOX	1	NITROFURANTO	1	GENTAMICIN	1	CEFPODOXIME	1	CIPROFLOX	1				2				
													2				
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2	CIPROFLOX	2				2				
COTRIMOX	2	NITROFURANTO	1	CARBOPENEM	1	CEFPODOXIME	2	CIPROFLOX	2				1	ESBL E.COLI	TIGECYCLINE	1	
													1	E COLI	MAGNEX	1	
													2				
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	1	CEFPODOXIME	1	CIPROFLOX	2				2				
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2						2				
GENTAMICIN	2	NITROFURANTO	1										1	ESBL E.COLI	TICARCLAV	2	
													2				
AMIKACIN	2	MAGNEX	2	CARBOPENEM	1	CEFTAZIDIME	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
													2				

														2			
														2			
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	1							1	E COLI	TICARCLAV	1
COTRIMOX	1	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	1							2			
														1	STAPH AUREUS	OXACILLIN	1
AMIKACIN	2	MAGNEX	1	CABOPENEM	1	NITROFURANTO	2	PIPTAZ	1	CEFPODOXIME	2	CIP	2	2			
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	1	CEFPODOXIME	1	CIPROFLOX	1					1	E COLI	TIGECYCLINE	1
COTRIMOX	1	NITROFURANTO	1	GENTAMICIN	1	CEFPODOXIME	2	CIPROFLOX	2					1	ESBL E.COLI	TIGECYCLINE	1
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2	CIPRFLOXACIN	2					2			
														2			
														1	ESBL E.COLI	TIGECYCLINE	1
														1	E COLI	MAGNEX	1
														2			
														1	ESBL E.COLI	TIGECYCLINE	1
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFPODOXIME	2	NALIDIXIC ACID	2					2			
														1	ESBL E.COLI	COLISTIN	1
														2			
AMIKACIN	2	MAGNEX	2	CARBOPENEM	1	NITROFURANTO	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
AMIKACIN	2	CEFUROXIME	2	CARBOPENEM	1	PIPTAZ	2	NITROFURANTO	1	CEFOTAXIME	2	CIP	2	2			
COTRIMOX	2	NITROFURANTO	1	GENTAMICIN	2	CEFUROXIME	2							1	ESBL E.COLI	AMIKACIN	2
														1	ESBL E.COLI	AMIKACIN	2
CEFUROXIME	2	CEFOTAXIME	2	MAGNEX	1	NITROFURANTO	1	CARBOPENEM	1	PIPTAZ	1	CIP	2	2			
AMIKACIN	1	CEFOTAXIME	2	CEFUROXIME	2	AMOXICLAV	2	CARBOPENEM	1	PIPTAZ	2	CIP	2	2			
														1	ESBL E.COLI	TICARCLAV	2
AMIKACIN	2	MAGNEX	2	CARBOPENEM	1	NITROFURANTO	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
AMOXICLAV	1	MAGNEX	1	CARBOPENEM	1	NITROFURANTO	1	PIPTAZ	1	CEFPODOXIME	1	CIP	1	1	E COLI	AMIKACIN	1
MAGNEX	1	AMIKACIN	1	NITROFURANTO	1	CARBOPENEM	1	PIPTAZ	2	CEFPODOXIME	1	CIP	2	2			
AMIKACIN	2	MAGNEX	2	CARBOPENEM	1	PIPTAZ	2	NITROFURANTO	2	CEFPODOXIME	2	CIP	2	1	ESBL E.COLI	TICARCLAV	2
TEICOPLANIN	1	LINEZOLID	1	AMPICILLIN	2	VANCOMYCIN	1	GENTAMICIN	2	CIPROFLOXACIN	2			2			
NITROFURANTO	1	CO TRIMOX	2	CEFPODOXIME	2	GENTAMICIN	2	CIPROFLOX	2					2			
AMIKACIN	1	NITROFURANTO	1	CARBOPENEM	1	PIPTAZ	2	CEFPODOXIME	2	CIPROFLOX	2	GEN	2	1	ESBL ECOLI	MAGNEX	1
														1	ESBL E.COLI	MAGNEX	1
AMIKACIN	1	NITROFURANTO	1	CARBOPENEM	1	PIPTAZ	2	CEFPODOXIME	2	CIPROFLOX	2			2			
NITROFURANTO	1	AMIKACIN	1	MAGNEX	1	COTRIMOX	1	CEFPODOXIME	1	CIPROFLOX	2			1	E COLI	MAGNEX	1
														2			



														1	ESBL E.COLI	MAGNEX	2
AMIKACIN	1	MAGNEX	1	NITROFURANTO	2	CARBOPENEM	1	PIPTAZ	1	CEFPODOXIME	2	CIP	1	1	ESBL E.COLI	MAGNEX	1
														1	E COLI		
AMIKACIN	1	MAGNEX	2	CARBOPENEM	1	COTRIMOX	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
														1	KLEBSIELLA	AMIKACIN	1
NITROFURANTO	2	COTRIMOX	1	GENTAMICIN	1	CEFPODOXIME	1	CIPROFLOX	1					2			
														2			
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	NITROFURANTO	1	PIPTAZ	1	CEFPODOXIME	2	CIP	1	2			
AMIKACIN	1	MAGNEX	1	CARBOPENEM	1	PIPTAZ	2	CEFPODOXIME	2	NITROFURANTO	2	CIP	2	2			
NITROFURANTO	1	COTRIMOX	1	GENTAMICIN	1	CEFPODOXIME	1	NALIDIXIC ACID	2					1	E COLI	AMIKACIN	1
AMIKACIN	1	MAGNEX	2	NITROFURANTO	1	CARBOPENEM	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	1	ESBL E.COLI	AMIKACIN	1
NALIDIXIC ACID	1	NITROFURANTO	2	COTRIMOX	1	GENTAMICIN	1	CEFPODOXIME	1					2			
														2			
MAGNEX	1	PIPTAZ	1	CEFTAZIDIME	1	CEFPODOXIME	1	LEVOFLOX	1	NITROFURANTO	2	GEN	1	1	KLEBSIELLA OX	AMIKACIN	1
														2			
CARBOPENEM	1	COTRIMOX	2	GENTAMICIN	2	NETILMICIN	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	1	ESBL E.COLI	MAGNEX	1
														1	ESBL E.COLI	MAGNEX	1
AMIKACIN	1	MAGNEX	1	NITROFURANTO	1	CARBOPENEM	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
NITROFURANTO	1	COTRIMOX	2	GENTAMICIN	1	AMPICILLIN	1	CEFPODOXIME	2	CIPROFLOX	2			2			
NITROFURANTO	2	COTRIMOX	1	GENTAMICIN	2	CEFPODOXIME	2	CIPROFLOX	2					2			
AMIKACIN	1	CARBOPENEM	1	TIGECYCLINE	1	PIPTAZ	2	CEFPODOXIME	2	COLISTIN	1	CIP	2	2			
NITROFURANTO	2	CARBOPENEM	1	COTRIMOX	2	GENTAMICIN	1	PIPTAZ	1	CEFPODOXIME	2	CIP	2	2			
														1	ESBL E.COLI	MAGNEX	1
AMIKACIN	1	MAGNEX	1	NITROFURANTO	1	CARBOPENEM	1	PIPTAZ	1	CEFPODOXIME	2	CIP	2	1	ESBL E.COLI	MAGNEX	1
AMIKACIN	1	MAGNEX	1	NITROFURANTO	1	CARBOPENEM	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
NITROFURANTO	1	CARBOPENEM	1	COTRIMOX	2	PIPTAZ	1	GENTAMICIN	2	CEFPODOXIME	2	CIP	2	2			
NITROFURANTO	1	AMIKACIN	1	CARBOPENEM	1	MAGNEX	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
														2			
														1	E COLI	MAGNEX	1
														2			
NITROFURANTO	1	COTRIMOX	1	GENTAMICIN	1	CEFPODOXIME	1	CIPROFLOX	2					1	E COLI	MAGNEX	1
MAGNEX	2	NITROFURANTO	2	CARBOPENEM	2	TIGECYCLINE	2	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
AMIKACIN	1	MAGNEX	1	NITROFURANTO	1	CARBOPENEM	1	PIPTAZ	1	CEFPODOXIME	2	CIP	2	2			
NITROFURANTO	1	COTRIMOX	1	GENTAMICIN	1	CEFPODOXIME	2	CIPROFLOX	2					1	ESBL E.COLI	MAGNEX	1
														2			

														2			
														2			
NITROFURANTO	1	COTRIMOX	2	GENTAMICIN	2	CEFPODOXIME	2	CIPROFLOX	2					2			
NITROFURANTO	2	CEFPODOXIME	1	GENTAMICIN	1	CIPROFLOX	1	COTRIMOX	2					2			
AMIKACIN	2	MAGNEX	2	NITROFURANTO	2	CARBOPENEM	1	PIPTAZ	2	CEFPODOXIME	2	CIP	2	2			
NITROFURANTO	1	CARBOPENEM	1	COTRIMOX	1	PIPTAZ	1	GENTAMICIN	1	CEFPODOXIME	1	CIP	1	2			
NITROFURTANT	1	COTRIMOX	2	GENTAMICIN	1	AMPICILLIN	1	CEFPODOXIME	1	CIPROFLOX	2			2			
														2			
														1	ESBL E.COLI	MAGNEX	1
NITROFURANTO	1	COTRIMOX	2	GENTAMICIN	1	CEFPODOXIME	2	CIPROFLOX	2					2			
NITROFURANTO	1	COTRIMOX	2	GENTAMICIN	2	AMPICILLIN	1	CEFPODOXIME	2	CIPROFLOX	2			1	ESBL E.COLI	COLISTIN	1

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

														1	1	2
														2	2	2
														2	2	2
														2	2	2
														1	1	2
														1	1	2
														1	1	1
														2	2	2
AMIKACIN	1	CARBOPENEM	1	TIGECYCLINE	1	COLISTIN	1	PIPTAZ	1	CEFPODOXIME	1	CIP	2	2	2	2
														1	1	2
CARBOPENEM	1	AMIKACIN	1	MAGNEX	1	CEFPODOXIME	2	PIPTAZ	2	CIPROFLOX	2	`		2	2	2



N0e8PSYN	N0f1Antibiotic	N0f1Dose	N0f1Route	N0f1Duration	N0f1Reasonfor	N0f2Antibiotics	N0f2Dose	N0f2Route	N0f2Duration	N0f2Reasonfor	N0f3Antibiotic	N0f3Dose	N0f3Route
2	ERTAPENEM	1	2	10	based on culture sensitivity								
2	PIPTAZ	9	2	10	based on culture sensitivity								
2	PIPTAZ	6.75	2	3	Clinical worsen	MEROPENEM	3	2	2	Based on culture	PIPTAZ	13.5	2
2	PIPTAZ	9	2	10	based on culture sensitivity								
2	PIPTAZ	2.25	2	1	based on culture	ERTAPENEM	1	2	10				
2	ERTAPENEM	1	2	14	based on culture sensitivity								
2	MEROPENEM	2	2	10	based on culture sensitivity								
2	PIPTAZ	13.5	2	3	Clinical worsen	MEROPENEM	3	2	7				
2	PIPTAZ	13.5	2	14									
2	NORFLOX	0.8	2	5	Based on clinical suspicion								
1	PIPTAZ	9	2	10	Based on clinical suspicion								
2	ERTAPENEM	1	2	10	Based on clinical suspicion								
2	ERTAPENEM	1	2	10	based on culture sensitivity								
2	PIPTAZ	9	2	5	clinical recover	AUGMENTIN	19.75	1	10	Based on culture sensitivity			
2	ERTAPENEM	1	2	14	based on culture sensitivity								
2	PIPTAZ	4.5	2	1	based on culture	ERTAPENEM	0.5	2	4				
2	PIPTAZ	13.5	2	7	Culture negative								
1	PIPTAZ	9	2	3	Based on clinical	ERTAPENEM	1	2	14	Based on culture sensitivity			
2	PIPTAZ	9	2	3	Based on clinical	PIPTAZ	13.5	2	2	Based on culture sensitivity			
2	PIPTAZ	13.5	2	7	based on culture	AUGMENTIN	2.4	1	3	Plan at discharge			
2	PIPTAZ	13.5	2	5	Based on clinical suspicion								
2	ERTAPENEM	1	2	14	based on culture sensitivity								
1	ERTAPENEM	1	2	10	based on culture sensitivity								
1	COTRIMOX	1.92	1	10	Based on clinical suspicion								
2	MEROPENEM	2	2	4	untimely discharge								
2	PIPTAZ	13.5	2	10	Culture negative								
2	ERTAPENEM	1	2	14	untimely discharge								
2	MEROPENEM	3	2	10	based on culture sensitivity								
2	ERTAPENEM	1	2	14	based on culture sensitivity								
2	MEROPENEM	3	2	3	Based on clinical	AMAKACIN	0.75	2	9	Based on culture sensitivity			
2	ERTAPENEM	1	2	10	based on culture sensitivity								
2	MEROPENEM	2	2	5	Clinical worsening								
2	MEROPENEM	1	2	10	based on culture sensitivity								
1	CIPROFLOX	1	1	4	based on culture	AMPICILLIN	2	1	14				

2	PIPTAZ	9	2	14	based on culture sensitivity								
2	AMIKACIN	0.5	2	7	Based on clinical suspicion								
2	PIPTAZ	6.75	2	2	Clinical worsen	MEROPENEM	2	2	7	Plan at discharge			
2	PIPTAZ	13.5	2	1	untimely discharge								
2	ERTAPENEM	1	2	14	Based on clinical suspicion								
2	PIPTAZ	13.5	2	14	Based on clinical suspicion								
2	MEROPENEM	3	2	14	based on culture sensitivity								
2	PIPTAZ	9	2	2	based on cultur	ERTAPENEM	0.5	2	5	Plan at discharge			
2	ERTAPENEM	1	2	12	untimely discharge								
2	MEROPENEM	0.5	2	4	untimely discharge								
2	PIPTAZ	9	2	1	untimely discharge								
2	MEROPENEM	2	2	14	based on culture sensitivity								
2	MEROPENEM	3	2	14	based on culture sensitivity								
2	PIPTAZ	6.75	2	1	based on culture sensitivity								
2	PIPTAZ	13.5	2	2	Clinical worsen	MEROPENEM	3	2	7	Based on culture sensitivity			
2	MEROPENEM	3	2	7	Cutlure negative								
2	ERTAPENEM	1	2	7	Cutlure negative								
2	MEROPENEM	3	2	21	Based on clinica	TECOPLANIN	0.4	2	14	Doctor's discre	CEFPODOXIME	0.4	1
1	ERTAPENEM	1	2	14						completed treatment			
1	MEROPENEM	2	2	5	based on cultur	LINEZOLID	1.2	1	28	completed treatment			
2	ERTAPENEM	1	2	10	based on culture sensitivity					completed treatment			
2	ERTAPENEM	1	2	7	based on culture sensitivity					completed treatment			
2	MEROPENEM	3	2	5	untimely discharge					completed treatment			
2	PIPTAZ	4.5	2	1	based on cultur	MEROPENEM	1	2	1	Plan at discharge			
2	PIPTAZ	9	2	2	based on cultur	MEROPENEM	3	2	10	completed treatment			
1	ERTAPENEM	1	2	5	untimely discha	AUGMENTIN	2.4	1	10	Plan at discharge			
2	ERTAPENEM	1	2	14						completed treatment			
2	PIPTAZ	13.5	2	1	based on cultur	ERTAPENEM	0.5	2	14	completed treatment			
2	CEFTRIAXONE	2	2	1	Clinical worsen	PIIPTAZ	13.5	2	7	completed treatment			
2	AUGMENTIN	12.5	1	14	based on culture sensitivity					completed treatment			
2	PIPTAZ	13.5	2	7	based on culture sensitivity					completed treatment			
2	ERTAPENEM	1	2	14	based on culture sensitivity					completed treatment			
2	PIPTAZ	13.5	2	14	Clinical worsen	MEROPENEM	3	2	10	clinical worsening			
2	ERTAPENEM	1	2	2	Clinical worsening					completed treatment			
2	C.PENICILLIN	20.4	2	3	Clinical worsen	PIPTAZ	13.5	2	2	clinical worsen	MEROPENEM	3	2

2	ERTAPENEM	0.5	2	10						completed treatment			
2	ERTAPENEM	0.5	2	10						completed treatment			
2	CEFUROXIME	0.5	1	14						completed treatment			
2	COTRIMOX	19.2	1	10	based on culture sensitivity					completed treatment			
2	PIPTAZ	13.5	2	7	Based on clinical suspicion					completed treatment			
2	ERTAPENEM	1	2	10						completed treatment			
2	AMIKACIN	0.75	2	7	Based on clinical suspicion					completed treatment			
2	ERTAPENEM	1	2	14						completed treatment			
2	CEFTRIAXONE	2	2	4	Clinical worsen	NITROFURANTO	0.2	1	7	Based on culture sensitivity			
2	ERTAPENEM	0.5	2	14						completed treatment			
2	PIPTAZ	9	2	1	clinical recover	CIPROFLOXACIN	1	1	7	completed treatment			
2	PIPTAZ	4.5	2	1	based on cultur	MEROPENEM	2	2	14	completed treatment			
1	CEFTRIAXONE	2	2	2	Based on clinical	ERTAPENEM	1	2	14	Based on culture sensitivity			
2	PIPTAZ	9	2	14	clinical recovery					completed treatment			
2	PIPTAZ	9	2	14	Based on clinical suspicion					completed treatment			
2	AMIKACIN	0.75	2	2	based on cultur	MEROPENEM	2	2	5	completed treatment			
2	AMIKACIN	0.75	2	7	based on cultur	AMPICILLIN	2	1	7	Based on culture sensitivity			
2	PIPTAZ	6.75	2	3	Clinical worsening					completed treatment			
2	MEROPENEM	3	2	14	based on culture sensitivity					completed treatment			
2	CEFTRIAXONE	4	2	1	Based on clinical	DOXY	0.4	1	2	Doctor's discre	PIPTAZ	9	2
2	ERTAPENEM	1	2	14	based on culture sensitivity					completed treatment			
2	PIPTAZ	4.5	2	1	based on cultur	MEROPENEM	3	2	14	completed treatment			
2	MEROPENEM	3	2	14	based on cultur	ATT				completed treatment			
2	ERTAPENEM	1	2	7	based on culture sensitivity					completed treatment			
1	MAGNEX	6	2	1	Cutlure negativ	MEROPENEM	3	2	14	Based on culture sensitivity			
2	PIPTAZ	13.5	2	3	Clinical worsen	ERTAPENEM	1	2	14	Plan at discharge			
2	MEROPENEM	3	2	10	based on culture sensitivity					completed treatment			
2	ERTAPENEM	1	2	2	based on cultur	PIPTAZ	13.5	2	2	Plan at discharge	CEFPODOXIME	0.4	1
2	PIPTAZ	13.5	2	14	Based on clinical suspicion					completed treatment			
2	CIPROFLOX	0.4	2	2	Clinical worsening					completed treatment			
2	AMIKACIN	0.75	2	2	based on cultur	ERTAPENEM	1	2	14	completed treatment			
2	ERTAPENEM	1	2	14	based on culture sensitivity					completed treatment			
2	CIPROFLOX	0.4	2	7	Cutlure negative					completed treatment			
2	PIPTAZ	4.5	2	1		AMIAKCIN	0.5	2	5	clinical worsen	MEROPENEM	2	2
2	CIPROFLOX	1	1	5	Cutlure negative					completed treatment			

2	PIPTAZ	6.75	2	3	Based on clinical suspicion					completed treatment			
2	PIPTAZ	13.5	2	1	Based on clinical suspicion					completed treatment			
2	AUGMENTIN	12.5	1	5	Clinical worsen	CIPROFLOX	1	1	10	clinical worsen	MEROPENEM	1	2
2	PIPTAZ	13.5	2	10	based on culture sensitivity					completed treatment			
1	PIPTAZ	9	2	5		MEROPENEM	2	2	2	clinical worsening			
2	ERTAPENEM	0.5	2	14	based on culture sensitivity					completed treatment			
2	PIPTAZ	13.5	2	1	Based on clinical	ERTAPENEM	1	2	14	Based on culture sensitivity			
2	PIPTAZ	13.5	2	1	Clinical worsening					completed treatment			
1	PIPTAZ	9	2	1	Based on clinical	ERTAPENEM	1	2	14	Based on culture sensitivity			
1	PIPTAZ	13.5	2	1	Based on clinical	ERTAPENEM	1	2	14	Plan at discharge			
2	PIPTAZ	4.5	2	1	Based on clinical	ERTAPENEM	1	2	14	Based on cultur	FLUCONAZOLE	0.2	2
2	PIPTAZ	9	2	2	Based on clinical	PIPTAZ	13.5	2	7	Based on cultur	DOXY	0.2	1
2	PIPTAZ	0.9	2	1	Based on clinical	AUGMENTIN	2	1	14	Plan at discharge			
1	ERTAPENEM	1	2	14	based on culture sensitivity					completed treatment			
2	PIPTAZ	13.5	2	4	Clinical worsen	MEROPENEM	2	2	10	Plan at discharge			
2	PIPTAZ	6.75	2	2	Based on clinical	DOXY	2	1	2	Doctor's discre	AZITHROMYCIN	0.5	2
1	CEFTAZIDIME	3	2	5	Based on clinical	AMPICILLIN	2	2	3	Based on culture sensitivity			
2	PIPTAZ	9	2	3	Based on clinical	ERTAPENEM	1	2	14	Based on culture sensitivity			
1	MAGNEX	6	2	9	based on cultur	IMIPENEM	0.75	2	1	Plan at discharge			
2	CEFOTAXIME	3	2	2	Based on clinical	IMIPENEM	0.75	2	14	Based on culture sensitivity			
2	CEFOTAXIME	2	2	1	Based on clinical	MEROPENEM	1.5	2	14	Based on culture sensitivity			
2	MAGNEX	4	2	14	based on culture sensitivity					completed treatment			
1	AMIKACIN	0.75	2	10	based on culture sensitivity					completed treatment			
2	PIPTAZ	13.5	2	2	Based on clinical	ERTAPENEM	1	2	10	Based on culture sensitivity			
2	IMIPENEM	2	2	14	based on culture sensitivity					completed treatment			
2	PIPTAZ	13.5	2	14	based on culture sensitivity					completed treatment			
2	AMPICILLIN	4	2	3	Cutlure negativ	CEFPODOXIME	0.4	1	7	Based on culture sensitivity			
1	MEROPENEM	2	2	14	based on cultur	CLOXACILLIN	4	2	7	clinical worsening			
2	PIPTAZ	13.5	2	14	Based on clinical	DOXY	0.2	1	7	Doctor's discre	LINEZOLID	1.2	2
2	MEROPENEM	3	2	10	based on culture sensitivity					completed treatment			
2	ERTAPENEM	1	2	14	based on culture sensitivity					completed treatment			
1	PIPTAZ	13.5	2	1	Based on clinical	AMIKACIN	0.75	2	14	Based on culture sensitivity			
2	PIPTAZ	13.5	2	10	Based on clinical	NITROFURANTO	0.2	1	30	completed treatment			
1	MEROPENEM	1	2	6	Based on clinical	ERTAPENEM	1	2	6	Based on culture sensitivity			
2	CIPROFLOX	1	1	7	Based on clinical suspicion					completed treatment			

2	PIPTAZ	13.5	2	2	Based on clinical suspicion	MEROPENEM	3	2	3	clinical worsening	ERTAPENEM	1	2
1	PIPTAZ	13.5	2	2	Based on clinical suspicion	MEROPENEM	3	2	3	Based on culture sensitivity	ERTAPENEM	1	1
2	PIPTAZ	13.5	2	1	Based on clinical suspicion					completed treatment			
2	MEROPENEM	3	2	10	based on culture sensitivity					completed treatment			
2	PIPTAZ	13.5	2	5	based on culture sensitivity	CIPROFLOX	1	1	10	Plan at discharge			
2	AMIKACIN	0.75	2	10	based on culture sensitivity					completed treatment			
2	PIPTAZ	9	2	6	Based on clinical suspicion					completed treatment			
2	PIPTAZ	6.75	2	7	based on culture sensitivity					completed treatment			
2	MAGNEX	4	2	14	based on culture sensitivity					completed treatment			
1	ERTAPENEM	1	2	7	Based on clinical suspicion	PIPTAZ	13.5	2	7	Based on culture sensitivity			
2	PIPTAZ	6.75	2	2	Based on clinical suspicion	MEROPENEM	0.5	2	1	Based on culture sensitivity	ERTAPENEM	0.5	2
2	AMIKACIN	0.75	2	5	based on culture sensitivity	CEFIXIME	0.5	1	5	Plan at discharge			
2	MEROPENEM	3	2	14	based on culture sensitivity	CO TRIMOX	1.92	1	14	clinical worsening			
2	MEROPENEM	3	2	4	based on culture sensitivity					completed treatment			
1	ERTAPENEM	1	2	14	based on culture sensitivity					completed treatment			
2	PIPTAZ	13.5	2	3	Based on clinical suspicion	MEROPENEM	3	2	14	Based on culture sensitivity			
1	MEROPENEM	2	2	14	Based on clinical suspicion					completed treatment			
2	ERTAPENEM	1	2	1	Based on clinical suspicion	MEROPENEM	2	2	10	Based on culture sensitivity			
2	PIPTAZ	13.5	2	2	Based on clinical suspicion	MEROPENEM	3	2	3	completed treatment			
2	PIPTAZ	9	2	3	Based on clinical suspicion	MEROPENEM	3	2	3	clinical worsening			
2	PIPTAZ	13.5	2	10	Based on clinical suspicion					completed treatment			
2	ERTAPENEM	1	2	9	Based on clinical suspicion	MEROPENEM	3	2	6	Plan at discharge			
1	PIPTAZ	4.5	2	1	Based on clinical suspicion	ERTAPENEM	1	2	1	Doctor's discretion	MEROPENEM	1	2
1	PIPTAZ	13.5	2	14	based on culture sensitivity					completed treatment			
2	PIPTAZ	13.5	2	3	Based on clinical suspicion	ERTAPENEM	1	2	10	Based on culture sensitivity			
2	PIPTAZ	13.5	2	3	Based on clinical suspicion	ERTAPENEM	1	2	10	Based on culture sensitivity			
2	PIPTAZ	13.5	2	2	Based on clinical suspicion	ERTAPENEM	1	2	10	Based on culture sensitivity			
2	PIPTAZ	13.5	2	2	Based on clinical suspicion					completed treatment			
1	PIPTAZ	13.5	2	3	Based on clinical suspicion	AMIKACIN	0.75	2	10	Based on culture sensitivity			
2	PIPTAZ	9	2	10	Culture negative					completed treatment			
1	MEROPENEM	1	2	2	Based on clinical suspicion	PIPTAZ	6.75	2	14	Based on culture sensitivity			
2	MEROPENEM	2	2	14	Based on clinical suspicion	CLOXACILLIN	2	1	42	clinical worsening			
1	MEROPENEM	2	2	14	based on culture sensitivity					completed treatment			
2	MEROPENEM	3	2	14	based on culture sensitivity					completed treatment			
2	MEROPENEM	2	2	2	Based on clinical suspicion					completed treatment			

1	ERTAPENEM	1	2	5	Based on clinical	AMOXICLAV	2	2	3	Based on culture sensitivity		
2	PIPTAZ	13.5	2	2	Based on clinical	MEROPENEM	3	2	1	Plan at discharge		
2	ERTAPENEM	1	2	10	based on culture sensitivity					completed treatment		
2	PIPTAZ	9	2	10	based on culture sensitivity					completed treatment		
2	PIPTAZ	13.5	2	3	Based on clinical	MEROPENEM	3	2	12	Based on culture sensitivity		
2	PIPTAZ	13.5	2	4	Based on clinical	AMIKACIN	0.75	2	10	Based on culture sensitivity		
2	PIPTAZ	3.5	2	10	based on culture sensitivity					completed treatment		
2	ERTAPENEM	1	2	4	based on culture	MEROPENEM	0.5	2	10	Doctor's discretion		
2	PIPTAZ	13.5	2	2	Based on clinical	ERTAPENEM	1	2	7	Based on culture sensitivity		
2	ERTAPENEM	0.5	2	3	Based on clinical	PIPTAZ	6.75	2	10	Based on culture sensitivity		
2	PIPTAZ	13.5	2	7	Based on clinical	MEROPENEM	3	2	7	Based on culture sensitivity		

N0f3Durationdays	N0f3Rchange	N0f4Antibiotic	N0f4Dose	N0f4Route	N0f4Durationdays	N0f4Rchange	N0g1CureaClini	N0g1bBacteriol	N0gb2ndUrineC	N10g1b3Organ	N0g2DeathYes	N0g2IfyesCause	N0g3durationo
	Completed treatment					Completed treat	1	1	2		2		8
	Completed treatment					Completed treat	1	1	2		2		7
10	based on culture sensitivity					Completed treat	1	2	1	E.COLI	2		8
	Completed treatment					Completed treat	1	1	2		2		2
	Completed treatment					Completed treat	1	2	2		2		8
	Completed treatment					Completed treat	2	2	2		2		9
	Completed treatment					Completed treat	1	1	1	NO GROWTH	2		5
	Completed treatment					Completed treat	1	1	1	NO GROWTH	2		10
	Completed treatment					Completed treat	1	1	1	NO GROWTH	2		29
	Completed treatment					Completed treat	1	2	1	PSEUDOMONA	2		15
	Completed treatment					Completed treat	1	1	1	NO GROWTH	2		12
	Completed treatment					Completed treat	1	1	1	NO GROWTH	2		4
	Completed treatment					Completed treat	1	2	2		2		8
	Completed treatment					Completed treat	1	1	1	NO GROWTH	2		7
	Completed treatment					Completed treat	1	1	1	NO GROWTH	2		23
	Completed treatment					Completed treat	1	2	2		2		7
	Completed treatment					Completed treat	1	1	1	NO GROWTH	2		8
	Completed treatment					Completed treat	1	1	2		2		6
	Completed treatment					Completed treat	1	1	1	CONTAMINANT	2		7
	Completed treatment					Completed treat	1	1	1	CONTAMINANT	2		8
	Completed treatment					Completed treat	1	2	2		2		5
	Completed treatment					Completed treat	1	2	1	ESBL ECOLI > 10	2		14
	Completed treatment					Completed treat	1	1	1	INSIGNIFICANT	2		12
	Completed treatment					Completed treat	1	1	1	CONTAMINANT	2		5
	Completed treatment					Completed treat	2	2	2		2		4
	Completed treatment					Completed treat	1	2	2		2		5
	Completed treatment					Completed treat	2	2	2		2		8
	Completed treatment					Completed treat	1	2	1	NFGNB 32000	2		12
	Completed treatment					Completed treat	1	1	1	CONTAMINANT	2		4
	Completed treatment					Completed treat	1	2	2		2		5
	Completed treatment					Completed treat	1	1	1	NO GROWTH	2		9
	Completed treatment					Completed treat	2	2	2		2		5
	Completed treatment					Completed treat	2	2	1	CANDIDA/ENTE	1	SEPTIC SHOCK	17
	Completed treatment					Completed treat	1	1	1	NO GROWTH	2		3

	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		14
	Completed treatment				Completed treat	1	2	2		2		6
	Completed treatment				Completed treat	1	2	2		2		7
	Completed treatment				Completed treat	2	2	2		2		1
	Completed treatment				Completed treat	1	2	2		2		21
	Completed treatment				Completed treat	1	2	2		2		14
	Completed treatment				Completed treat	1	2	2		2		14
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		5
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		12
	Completed treatment				Completed treat	2	2	2		2		4
	Completed treatment				Completed treat	2	2	2		2		1
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		14
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		41
	Completed treatment				Completed treat	2	2	2		1	SEPTIC SHOCK	1
	Completed treatment				Completed treat	2	2	2		2		8
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		16
	Completed treatment				Completed treat	1	2	2		2		7
4	Plan at discharge METROGYL	1.5	1	5	Plan at discharge	1	1	1	PROTEUS	2		26
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		20
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		16
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		15
	Completed treatment				Completed treat	1	2	2		2		7
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		5
	Completed treatment				Completed treat	2	2	2		2		1
	Completed treatment				Completed treat	1	1	2	NO GROWTH	2		12
	Completed treatment				Completed treat	1	1	1		2		10
	Completed treatment				Completed treat	1	2	1	ECOLI 6000	2		8
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		17
	Completed treatment				Completed treat	1	1	1	NO GRWTH	2		5
	Completed treatment				Completed treat	1	2	1	KLEBSIELLA	2		4
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		9
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		10
	Completed treatment				Completed treat	1	2	2		2		29
	Completed treatment				Completed treat	2	2			1	DNI / DNR - SHC	2
10	based on culture sensitivity				Completed treat	1	1	1	NO GROWTH	2		20



	Completed treatment				Completed treat	1	2	1	ECOLI 500	2		7
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		9
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		7
	Completed treatment				Completed treat	1	2	2		2		4
	Completed treatment				Completed treat	1	2	2		2		15
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		13
	Completed treatment				Completed treat	1	2	1	YEAST	2		4
	Completed treatment				Completed treat	1	1	1	CONTAMINANT	2		7
	Completed treatment				Completed treat	2	2	2		2		7
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		6
	Completed treatment				Completed treat	1	1	2		2		3
	Completed treatment				Completed treat	1	2	2		2		14
	Completed treatment				Completed treat	1	2	1	ENTEROCOCCI	2		11
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		17
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		11
	Completed treatment				Completed treat	2	2	2		2		10
	Completed treatment				Completed treat	1	2	2		2		7
	Completed treatment				Completed treat	2	2	2		2		3
	Completed treatment				Completed treat	1	2	1	CANDIDA	2		14
1	Plan at discharge				Completed treat	2	2	2		2		1
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		14
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		15
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		16
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		17
	Completed treatment				Completed treat	1	2	2		2		14
	Completed treatment				Completed treat	1	2	2		2		4
	Completed treatment				Completed treat	1	2	2		2		10
10	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		4
	Completed treatment				Completed treat	1	2	2		2		3
	Completed treatment				Completed treat	2	2	2		1	MALIGNANT M	2
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		5
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		23
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		9
7	based on cultur	VANCOMYCIN	2	2	10	Basedon cultur	1	2	1	ENTEROCOCCI	2	21
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		3

	Completed treatment				Completed treatment	2	2	2		1	REFRACTORY S	4
	Completed treatment				Completed treatment	2	2	2		1	ARF , SHOCK	1
3	Clinical worsening				Completed treatment	2	2	2		1	SEPTIC SHOCK	30
	Completed treatment				Completed treatment	1	1	2		2		8
	Completed treatment				Completed treatment	1	1	2		1	UROSEPSIS	14
	Completed treatment				Completed treatment	1	1	1	NO GROWTH	2		6
	Completed treatment				Completed treatment	1	2	2		2		15
	Completed treatment				Completed treatment	2	2	2		1	SEPTIC SHOCK	1
	Completed treatment				Completed treatment	1	2	1	YEAST , 600	2		18
	Completed treatment				Completed treatment	1	1	1	INSIGNIFICANT	2		8
14	based on culture sensitivity				Completed treatment	1	1	1	NO GROWTH	2		18
7	Doctor's discretion AUGMENTIN	2	1	7	Plan at discharge	1	2	2		2		8
	Completed treatment				Completed treatment	2	2	2		2		1
	Completed treatment				Completed treatment	1	2	2		2		14
	Completed treatment				Completed treatment	2	2	2		2		13
1	Doctor's discretion MEROPENEM	1	2	7	Based on culture	1	1	1	NO GROWTH	2	0	10
	Completed treatment				Completed treatment	1	2	1	ENTEROCOCCI 40	2		8
	Completed treatment				Completed treatment	1	2	1	ESBL ECOLI>100	2		14
	Completed treatment				Completed treatment	1	2	2		2		9
	Completed treatment				Completed treatment	1	2	2		2		3
	Completed treatment				Completed treatment	1	2	2		2		16
	Completed treatment				Completed treatment	1	2	2		2		8
	Completed treatment				Completed treatment	1	2	2		2		4
	Completed treatment				Completed treatment	1	2	2		2		9
	Completed treatment				Completed treatment	1	2	1	ESBL ECOLI,200	2		8
	Completed treatment				Completed treatment	1	2	1	YEAST,40000	2		17
	Completed treatment				Completed treatment	1	2	2		2		10
	Completed treatment				Completed treatment	1	2	2		2		26
7	based on culture sensitivity				Completed treatment	1	1	1	NO GROWTH	2		37
	Completed treatment				Completed treatment	1	1	1	NO GROWTH	2		15
	Completed treatment				Completed treatment	1	2	1	PROTEUS / ECC	2		17
	Completed treatment				Completed treatment	1	1	1	NO GROWTH	2		17
	Completed treatment				Completed treatment	1	1	1	INSIGNIFICANT	2		9
	Completed treatment				Completed treatment	1	2	2		2		6
	Completed treatment				Completed treatment	1	2	2		2		7

10	based on culture sensitivity				Completed treat	1	2	2		2		17
1	based on culture CIPROFLOX	1.5	1	7	Plan at discharge	1	2	2		2		7
	Completed treatment				Completed treat	2	2	2		2		1
	Completed treatment		3		Completed treat	1	2	1	YEAST > 100000	2		12
	Completed treatment				Completed treat	1	2	2		2		10
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		7
	Completed treatment				Completed treat	2	2	2		1	SEPSIS-DNI / DNI	6
	Completed treatment				Completed treat	1	2	2		2		7
	Completed treatment				Completed treat	1	2	2		2		14
	Completed treatment				Completed treat	1	2	1	YEAST 2600	2		18
14	based on culture sensitivity				Completed treat	1	2	2		2		10
	Completed treatment				Completed treat	1	2	2		2		5
	Completed treatment				Completed treat	1	1	1	MIXTURE OF O	2		19
	Completed treatment				Completed treat	2	2	2		1	SEPTIC SHOCK, I	5
	Completed treatment				Completed treat	1	2	2		2		4
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		21
	Completed treatment				Completed treat	1	1	1	CONTAMINANT	2		20
	Completed treatment				Completed treat	1	2	2		2		11
	Completed treatment				Completed treat	2	2	2		1	REFRACTORY S	5
	Completed treatment				Completed treat	2	2	2		1	SEPTIC SHOCK	6
	Completed treatment				Completed treat	1	2	1	ENTROCOCCI, 3	2		12
	Completed treatment				Completed treat	1	1	1	CONTAMINANT	2		6
14	based on culture sensitivity				Completed treat	1	2	2		2		14
	Completed treatment				Completed treat	1	2	2		2		19
	Completed treatment				Completed treat	1	2	2		2		5
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		6
	Completed treatment				Completed treat	1	2	2		2		7
	Completed treatment				Completed treat	2	2	2		1	SEPTIC SHOCK ,	2
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		7
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		15
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		15
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		18
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		15
	Completed treatment				Completed treat	1	2	1	ENTEROCOCCU	2		21
	Completed treatment				Completed treat	2	2	2		1	SEPTIC SHOCK	2

	Completed treatment				Completed treat	1	2	2		2		5
	Completed treatment				Completed treat	1	2	2		2		3
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		12
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		14
	Completed treatment				Completed treat	1	2	1	CANDIDA , 7000	2		14
	Completed treatment				Completed treat	1	2	1	ENTEROCOCCI	2		14
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		11
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		14
	Completed treatment				Completed treat	1	2	2		2		8
	Completed treatment				Completed treat	1	2	2		2		7
	Completed treatment				Completed treat	1	1	1	NO GROWTH	2		17

N0g3ICUorHDU	N0g3aDischarge	N0g3aReason	N0g4Initiatedor	N0g4Reason	N0g5Procedure	N10g5IfYes	N0g6TotalIPBill	N0g6PaidYesNo	N0g6Writtenoff	N0g6WrittenofVa	N10g7Follow	Numberofepiso	timetofirstepis
2	2	Completed Tre	2		2		20147	1	1	9140	1	1	120
2	2	Completed Tre	2		2		14768	1	2	0	2		
2	2	Completed Tre	2		2		16393	1	2	0	1	1	180
2	2	Completed Tre	2		2		580	1	2	0	2		
2	2	Completed Tre	2		2		11419	1	1	4021	1	3	30
1	1	NOT KNOWN	2		2		32184	1	2	0	2		
2	2	Completed Tre	2		2		6973	1	2	0	1	0	
2	2	Completed Tre	2		2		65657	1	2	0	1	0	
2	2	Completed Tre	1	PCN INSITU	1	LEFT PCN	162308	1	2	0	1	0	
2	1	Patient's reque	2		1	PRESSURE FLOW	56673	1	2	0	1	1	15
2	2	Completed Tre	2		2		23877	1	2	0	2	0	
2	2	Completed Tre	2		2		5941	1	2	0	2	0	
2	2	Completed Tre	2		2		21360	1	2	0	2		
2	2	Completed Tre	2		2		13252	1	2	0	1	0	
1	2	Completed Tre	2		2		110324	1	2	0	1	1	30
2	1	For continuatio	2		2		7813	1	2	0	1	1	30
2	2	Completed Tre	2		1	MCU	11488	1	1	1570	1	3	1
2	2	Completed Tre	2		2		8880	1	1	0	1	2	
2	2	Completed Tre	2		2		34747	1	2	0	2	0	
2	2	Completed Tre	2		2		12377	1	2	0	1	0	
2	1	Financial const	2		2		9191	1	2	0	2	0	
2	2	Completed Tre	1	PERSISTENT CU	2		24320	1	1	20674	1	1	42
2	2	Completed Tre	2		2		19303	1	2	0	1	0	
2	2	Completed Tre	1	IMMUNOSUPPL	2		8876	1	1	6440	1	0	
2	1	NOT KNOWN	2		2		28590	1	1	6529	2	0	
2	1	For continuatio	2		2		21862	1	2	0	2	0	
2	2	Completed Tre	2		2		17391	1	2	0	2	0	
2	2	Completed Tre	1	RECURENT UTI	2		49193	1	1	15953	1	1	150
2	1	For continuatio	1	AT REVIEW	2		6456	1	2	0	1	1	42
2	1	Patient's reque	2		2		21713	1	1	8975	2	0	
2	2	Completed Tre	1		2		67687	1	1	27535	2	0	
2	1	Patient's reque	2		2		18812	1	2	0	2	0	
2	2	Death	2		1	DIALYSIS	92527	1	2	0	2	0	
2	1	Patient's reque	2		2		92950	2	1	92950	1	3	90

1	2	Completed Tre	2		2		24115	1	2	24115	1	0	
2	2	Completed Tre	2		2		12100	1	1	5755	2	0	
2	1	Patient's reque	2		2		19501	1	2	0	1	2	90
2	1	For continuatio	2		2		7575	1	2	0	2	0	
2	2	Completed Tre	2		2		42759	1	2	0	1	1	60
2	2	Completed Tre	2		2		31158	1	2	0	1	1	60
2	2	Completed Tre	2		1	RIGHT PCN	17329	1	2	0	1	1	120
2	2	Completed Tre	2		2		6884	1	1	5420	2	0	
2	1	Clinical Deteriora	2		2		85474	1	2	0	2	0	
2	1	Financial constr	2		2		25177	1	2	0	2	0	
2	1	Financial constr	2		2		7249	1	2	0	2	0	
2	2	Completed Tre	2		2		26222	1	2	0	2	0	
2	2	Completed Tre	2		2		261270	1	2	0	1	0	
1	2	Death	2		2		17159	2	1	17159	2	0	
	1	Financial constr	2		2		45860	1	1	10669	2	0	
2	2	Completed Tre	2		2		33564	1	2	0	1	2	
2	2	Completed Tre	1		2		12553	1	1	5605	1	0	
2	2	Completed Tre	2		2		148350	1	2	0	1	0	
2	2	Completed Tre	2		2		38260	1	1	12479	1	0	
2	2	Completed Tre	1	RECURRENCE	2		33894	1	2	0	2	0	
2	2	Completed Tre	2		2		27705	1	2	0	2	0	
2	1	NOT KNOWN	1		2		13466	2	1	13466	2	0	
2	2	Completed Tre	2		1	IVU	9295	1	2	0	2		
2	1	Financial constr	2		1	DIALYSIS	8018	1	1	4720	2	0	
2	2	Completed Tre	2		2		19769	1	2	0	2	0	
2	1	Financial constr	1	IMMUNOSUPP	2		26821	1	1	19529	1	0	
2	2	Completed Tre	1	OPD	2		17602	1	1	4270	1	0	
1	2	Completed Tre	2		2		40828	1	1	12970	1	1	210
2	2	Completed Tre	2		2		17172	1	2	0	1	0	
2	2	Completed Tre	2		2		5860	1	2	0	1	0	
2	2	Completed Tre	2		2		13553	1	2	0	1	0	
2	2	Completed Tre	2		2		23591	1	2	0	2	0	
1	2	Completed Tre	2		2		238837	1	2	0	2	0	
2	2	Death	2		2		12257	1	2	0	2		
2	2	Completed Tre	2		1	CBD IN SITU	76145	1	2	0	1	1	60

2	2	Completed Tre	2		2		13629	1	2	0	2	0	
2	2	Completed Tre	2		2		16728	1	2	0	2		
2	2	Completed Tre	2		2		68075	1	2	0	2		
2	2	Completed Tre	2		2		10841	1	2	0	2		
2	2	Completed Tre	2		2		33600	1	2	0	2		
2	2	Completed Tre	2		2		61584	1	2	0	2		
2	2	Completed Tre	2		2		6591	1	1	3254	1	0	
2	2	Completed Tre	2		2		11605	1	2	0	2	0	
2	1	Financial const	2		2		13108	1	2	0	2		
2	2	Completed Tre	2		2		15304	1	1	7470	1	0	
2	2	Completed Tre	2		2		5331	1	2	0	2	0	
1	2	Completed Tre	2		1	LEFT PCN	78941	1	1	56960	1	4	30
2	2	Completed Tre	2		2		80419	1	2	0	2	0	
2	1	Financial const	2		2		24824	2	1	20664	2	0	
1	2	Completed Tre	2		2		27649	1	2	0	1	1	21
2	2	Completed Tre	2		2		18318	1	2	0	2	0	
2	2	Completed Tre	2		2		10395	1	2	0	1	0	
2	1	NO FAMILY SUP	2		2		12220	1	2	0	2		
2	2	Completed Tre	2		2		162251	1	2	0	1	2	30
2	1	Financial const	2		2		3461	1	2	0	2	0	
2	2	Completed Tre	2		2		23029	1	2	0	1	1	180
2	1	Patient's reque	2		2		44619	1	2	0	1	1	240
2	2	Completed Tre	2		2		29346	1	1	2249	1	0	
2	2	Completed Tre	2		2		51421	1	1	7365	1	0	
2	2	Completed Tre	2		2		28649	1	2	0	1	1	150
2	1	Financial const	2		2		6958	1	2	0	2	0	
2	2	Completed Tre	2		2		13234	1	2	0	1	0	
2	2	Completed Tre	2		2		6896	1	1	3860	1	0	
2	1	For continuation	2		2		7719	1	1	3129	1	0	
2	2	Death	2		2		5994	1	2	0	2	0	
2	2	Completed Tre	1	RECURRENT UT	2		10044	1	2	0	1	0	
2	2	Completed Tre	2		2		56169	1	2	0	1	0	
2	2	Completed Tre	2		2		13693	1	2	0	1	0	
2	2	Completed Tre	2		2		30440	1	2	0	1	0	
2	2	Completed Tre	2		2		5715	1	2	0	1	0	

2	2	Death	2		2		23546	1	1	9916	2		
2	2	Death	2		2		3576	1	2	0	2	0	
1	2	Death	2		2		109855	1	2	0	2	0	
2	2	Completed Tre	2		2		19100	1	2	0	1	0	
2	2	Death	2		2		112118	1	2	0	2	0	
2	2	Completed Tre	2		2		11971	1	2	0	2	0	
1	2	Completed Tre	2		2		119662	1	2	0	1	1	90
2	2	Death	2		2		5454	1	1	3779	2	0	
1	2	Completed Tre	2		2		109482	1	1	19999	1	1	90
2	2	Completed Tre	2		2		28120	1	2	0	2	0	
2	2	Completed Tre	2		2		56506	1	1	3539	2	0	
1	1	Financial const	2		2		30875	2	1	30875	2	0	
2	1	NOT KNOWN	2		2		2909	1	1	1815	1	1	30
2	1	Financial const	2		2		60790	1	1	34745	2	0	
2	1	Clinical Deteriora	2		2		29044	1	1	16278	2	0	
2	1	Financial const	2		2		54142	1	1	25160	2	0	
2	1	Financial const	2		1	TPI	38672	1	1	10844	2	0	
2	2	Completed Tre	1	PERSITENT CUL	2		18483	1	2	0	2	0	
2	2	Completed Tre	2		1	RIGHT PCN	11920	1	1	11768	2	0	
2	1	Financial const	2		2		7008	1	1	3001	2	0	
2	2	Completed Tre	2		2		17525	1	1	8862	1	1	90
2	1	Financial const	2		1	CBD INSITU	10517	1	1	5109	2	0	
2	1	Financial const	2		2		4185	1	2	0	1	0	
2	2	Completed Tre	2		2		13195	1	2	0	2	0	
2	2	Completed Tre	2		2		115357	1	2	0	2	0	
2	1	NOT KNOWN	2		1	CBD INSITU	158118	1	2	0	1	0	
2	2	Completed Tre	2		1	CBD INSITU	23886	1	2	0	1	2	210
2	1	NOT KNOWN	2		2		90086	1	2	0	2	0	
1	2	Completed Tre	2		2		89097	1	1	21385	2	0	
2	2	Completed Tre	2		2		51327	1	2	0	2	0	
2	2	Completed Tre	2		2		24261	1	1	5650	1	1	42
2	2	Completed Tre	2		2		28667	1	1	6025	2	0	
2	2	Completed Tre	1		2		13763	1	1	5110	1	0	
2	1	For continuation	2		2		14057	1	1	5694	2	0	
2	2	Completed Tre	2		2		31839	1	2	0	2	0	



2	2	Completed Tre	2		2		25366	1	1	14754	2	0	
2	1	Financial const	2		2		21145	1	1	1015	2	0	
2	1	Clinical Deteriora	2		2		6285	1	1	5560	2	0	
2	2	Completed Tre	1	CBD INSITU, RE	2		19912	1	1	4634	2	0	
2	2	Completed Tre	2		2		21896	1	1	13324	1	1	60
2	1	For continuation	2		2		14460	2	1	14460	2	0	
2	2	Death	2		2		15455	1	2	0	2	0	
1	2	Completed Tre	2		2		20926	1	2	0	2	0	
2	2	Completed Tre	2		2		33848	1	1	5636	1	0	
2	2	Completed Tre	2		2		126911	1	2	0	1	1	150
2	2	Completed Tre	2		2		16295	1	1	1239	1	1	30
2	2	Completed Tre	2		2		8208	1	1	869	2	0	
1	2	Completed Tre	2		2		54828	1	2	0	1	1	14
1	2	Death	2		2		44782	1	2	0	2	0	
2	2	Completed Tre	2		2		10134	1	2	0	1	1	30
2	2	Completed Tre	1	NEUROPATHIC	2		40761	1	2	0	2	0	
1	2	Completed Tre	2		2		123977	1	1	79295	1	0	
2	2	Completed Tre	2		2		30835	1	1	7714	1	0	
2	2	Death	2		2		35916	1	2	0	2	0	
1	2	Death	2		2		51306	1	2	0	2	0	
2	2	Completed Tre	2		2		41470	1	1	36010	1	0	
2	1	For continuation	2		2		18437	1	1	3615	1	0	
2	2	Completed Tre	2		2		50882	1	1	31774	1	0	
2	1	Clinical Deteriora	2		2		72441	1	1	55712	2	0	
2	1	Financial const	2		2		10908	1	1	4159	1	0	
2	1	Patient's reque	2		2		17102	1	2	0	1	1	30
2	1	Patient's reque	2		2		20880	1	2	0	2	0	
2	2	Death	2		2		5486	1	2	0	2	0	
2	1	Patient's reque	2		2		18780	1	2	0	1	1	30
2	2	Completed Tre	2		1	RENAL BIOPSY	49655	1	2	0	1	0	
2	2	Completed Tre	2		1	LEFT PCN	53973	1	2	0	1	0	
2	2	Completed Tre	2		1	USG GUIDED AI	44137	1	2	0	1	0	
2	2	Completed Tre	1	RECURRENT UT	2		25948	1	2	0	1	0	
2	2	Completed Tre	2		2		42564	1	1	20470	1	0	
2	2	Death	2		2		3144	1	2	0	2	0	

2	2	Completed Tre	1	RECURRENT UT	2		13157	1	1	11200	2	0	
2	1	NOT KNOWN	2		2		8219	1	2	0	2		
	2	Completed Tre	1	UTI ON IMMUN	2		29371	1	1	4204	2	0	
2	2	Completed Tre	2		2		34768	1	1	26699	1	1	30
2	2	Completed Tre	2		2		31578	1	1	3424	1	0	
2	2	Completed Tre	1	NEPHROLITHIA	1	CYSTOSCOPY	24320	1	1	9135	1	0	
2	2	Completed Tre	2		1	CBD INSITU	52291	1	2	0	1	0	
2	1	NOT KNOWN	2		1	DIALYSIS	53958	1	2	0	2	0	
2	1	For continuatio	2		2		18722	1	2	0	2	0	
2	2	Completed Tre	2		2		20457	1	2	0	1	1	14
2	2	Completed Tre	2		2		112615	1	2	0	2	0	

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No UTI episodes								20	1	2
No follow up								21	1	1
ESBL E coli	IP TREATED ME	300	ESBL E COLI	ERTAPENEM 14 DAYS,NO PROPHYLAXIS				22	1	1
No follow up								23	1	2
ESBL E coli	SAME ORG,IP RX WITH MEROPENEM							24	1	1
ESBL E coli	TREATED AS OP							25	1	1
ESBL E coli	RX WITH MAGNEX,PROPHYLAXIS STARTED							26	1	1
No follow up								27	1	1
No follow up								28	1	1
No follow up								29	1	2
No follow up								30	1	2
No follow up								31	1	1
No UTI episodes								32	1	1
No follow up								33	1	1
No follow up								34	1	1
details unavailable								35	1	1
No UTI episodes								36	1	2
No UTI episodes								37	1	2
No UTI episodes								38	1	2
No follow up								39	1	1
No follow up								40	1	1
No follow up								41	1	1
No follow up								42	1	1
No follow up								43	1	1
No follow up								44	1	1
No UTI episodes								45	1	1
No UTI episodes								46	1	1
ESBL E coli	OPD TREATMENT							47	1	1
No UTI episodes								48	1	2
No UTI episodes								49	1	1
No UTI episodes								50	1	1
No follow up								51	1	1
No follow up								52	1	1
No follow up								53	1	2
ESBL E coli	TCC OF BLADDER							54	1	1

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